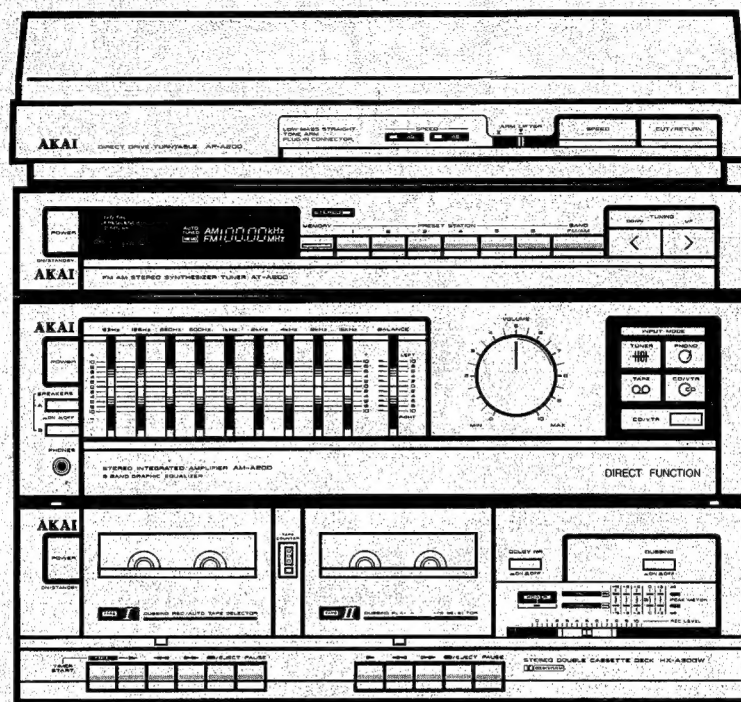


AKAI SERVICE MANUAL



PRO-A200D/A200WD

COMPATIBLE TURNTABLE

MODEL AP-A100/C, A200/C

TUNER

MODEL AT-A200/L

AMPLIFIER

MODEL AM-A200

CASSETTE DECKS

MODEL HX-A200, A300W



PRO-A200D/A200WD

MODEL AP-A100/C, AP-A200/C, AT-A200/L,
AM-A200, HX-A200, HX-A300W

| | | |
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| SECTION 7 | PARTS LIST (AP-A100/C, AP-A200/C, AT-A200/L, AM-A200, HX-A200, HX-A300W) | 43 |

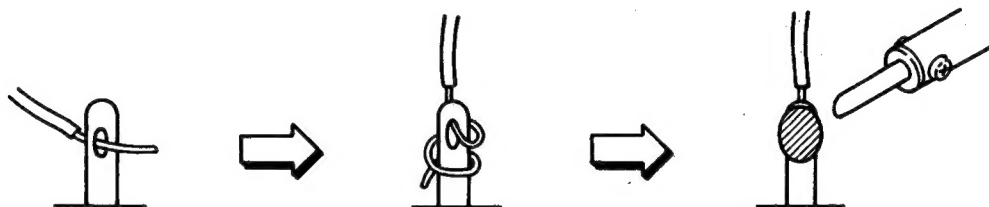
SAFETY INSTRUCTIONS

SAFETY CHECK AFTER SERVICING

Confirm the specified insulation resistance between power cord plug prongs and externally exposed parts of the set is greater than 10 Mohms, but for equipment with external antenna terminals (tuner, receiver, etc.) and is intended for **C** or **A**, specified insulation resistance should be more than 2.2 Mohms (ground terminals, microphone jacks, headphone jacks, line-in-out jacks etc.)

PRECAUTIONS DURING SERVICING

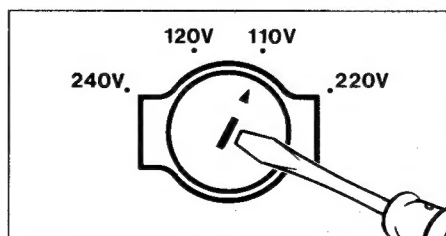
1. Parts identified by the **Δ** symbol parts are critical for safety.
Replace only with parts number specified.
2. In addition to safety, other parts and assemblies are specified for conformance with such regulations as those applying to spurious radiation. These must also be replaced only with specified replacements.
Examples: RF converters, tuner units, antenna selector switches, RF cables, noise blocking capacitors, noise blocking filters, etc.
3. Use specified internal wiring. Note especially:
 - 1) Wires covered with PVC tubing
 - 2) Double insulated wires
 - 3) High voltage leads
4. Use specified insulating materials for hazardous live parts. Note especially:
 - 1) Insulation Tape
 - 2) PVC tubing
 - 3) Spacers (Insulating Barriers)
 - 4) Insulation sheets for transistors
 - 5) Plastic screws for fixing microswitch (especially in turntable)
5. When replacing AC primary side components (transformers, power cords, noise blocking capacitors, etc.), wrap ends of wires securely about the terminals before soldering.



6. Observe that wires do not contact heat producing parts (heatsinks, oxide metal film resistors, fusible resistors, etc.).
7. Check that replaced wires do not contact sharp edged or pointed parts.
8. Also check areas surrounding repaired locations.
9. Use care that foreign objects (screws, solder droplets, etc.) do not remain inside the set.

VOLTAGE CONVERSION

Models for Canada, Europe, UK and Australia are not equipped with this facility. Each machine is preset at the factory according to destination, but some machines can be set to 110V, 120V, 220V or 240V as required. If your machine's voltage can be converted: Turn the voltage selector, located on the AM-A200 Amplifier's back panel, with a screwdriver until the correct voltage is indicated.



INTRODUCING THE AKAI PRO-200 SERIES COMPONENTS

The PRO-A200 components are microcomputer controlled for easy (Direct Function) operation and convenient recording. The direct connection plugs on the Tuner, Amplifier, and Cassette deck sections make connection simple. The PRO-A200 components will provide you with years of high quality Hi-Fi, for your listening pleasure.

1. PRO-A200 SERIES LINE-UP


| | PRO-A200 | PRO-A200D | PRO-A200W | PRO-A200WD |
|---------------|-----------|-----------|-----------|------------|
| Turntable | AP-A100/C | AP-A200/C | AP-A100/C | AP-A200/C |
| Tuner | AT-A200/L | | | |
| Amplifier | AM-A200 | | | |
| Cassette Deck | HX-A200 | | HX-A300W | |

OPTIONAL


| | |
|------------|---------|
| Timer | DT-A2 |
| Audio Rack | RV-A100 |

2. FEATURES

1) AP-A100/C

- Semi automatic player system
Set the record speed, then use the damped cue control arm to lift and lower the tone arm. The Akai AP-A100 will automatically locate the end of each record and return to the tone arm rest when the selection is finished. If you want to lift the tone arm from one section and start another, the tone arm Cue Control Damper eliminates the possibility of accidental scratches to your records.
- Low resonant cabinet which helps prevent distortion
- Sensitive straight tone arm
-  type plug in cartridge (AP-A100C only)
- DIRECT FUNCTION control makes playback and recording operations simple, when combined with the Akai AC-A100/L.

2) AP-A200/C

- Low mass straight tone arm
- Low resonant cabinet which helps prevent distortion
- Semi automatic Direct Drive player system
Set the record speed, then use the damped cue control arm to lift and lower the tone arm. The Akai AP-A200 will automatically locate the end of each record and return to the tone arm rest when the selection is finished. If you want to lift the tone arm from one section and start another, the tone arm Cue Control Damper eliminates the possibility of accidental scratches to your records.
-  type plug in cartridge (AP-A200C only)
- DIRECT FUNCTION control makes playback and recording operations simple, when combined with the Akai PRO-A200.

3) AT-A200/L

- Microcomputer controlled Tuner for accurate tuning.
- Up to 12 stations can be memorized (6 AM band, and 6 FM band)
- FL digital display panel

4) AM-A200

Features of the AM-A200 Stereo Integrated Amplifier

- Nine band graphic equalizer for adjusting the sound to suit your taste, can be used during playback and recording operations.
- DIRECT FUNCTION control automatically activates the tuner, tape deck and Phono.
- BALANCE control and large VOLUME control dial
- CD/VTR input mode selector button for use when you want to playback another audio component connected to the rear panel CD/VTR jacks

5) HX-A200

- Direct Function recording with the tuner, phono, or other connected audio component
- Automatic Recording Level Control (ALC) for convenient recording.
- DOLBY NR (B) switch for use of the Dolby Noise Reduction System
- Full auto stop, the tape will automatically stop during all tape functions, when the end of the tape is reached.
- One touch recording button for easy recording
- Timer (optional) can be used for Timed Playback or Absentee Recording purposes.

6) HX-A300W

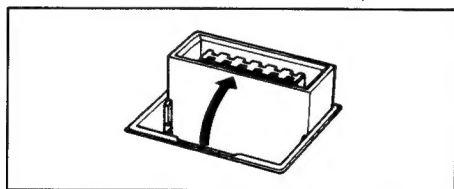
- Double cassette deck for convenient tape to tape dubbing.
- Direct Function recording with the tuner, phono, or other connected audio component.
- Auto Tape Selector for correct setting of the bias and equalization for NORMAL and CrO₂(Chrome) tapes.
- DOLBY NR (B) switch for use of the Dolby Noise Reduction System
- Full auto stop, the tape will automatically stop during all tape functions, when the end of the tape is reached.
- One touch recording button for easy recording
- Timer (optional) can be used for Timed Playback or Absentee Recording purposes.

3. THE DIRECT CONNECTION PLUGS

The PRO-A200 series Amplifier AM-A200, Tuner AT-A200 and Cassette Deck HX-A200 or HX-A300W feature the convenient Direct Connection Plugs.

The Direct Connection Plugs of the PRO-A200 series make assembly of your components quick and easy.

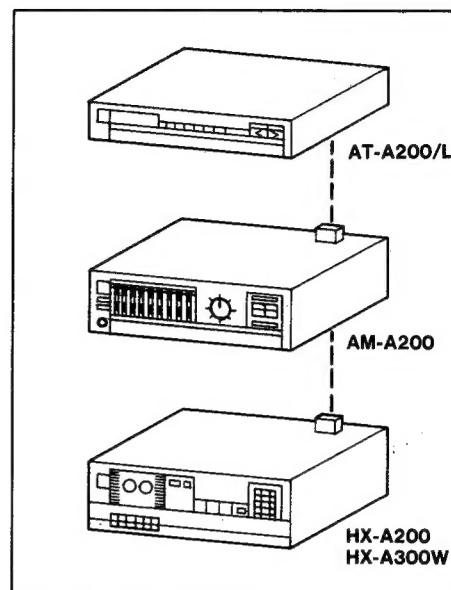
1. Raise the direct connection plug located on the top panel of the AM-A200 Amplifier. Once in the vertical position, push it down gently, and it will lock into position.
2. Set the AT-A200 Tuner on top of the AM-A200 Amplifier so that the connection plug is inserted into the socket on the bottom of the AT-A200.
- Follow the same instructions for connection of your Akai compatible HX-A200 or HX-A300W Stereo Cassette Deck.



4. PLACEMENT OF THE PRO-A200

COMPONENTS

Connect components only in the order illustrated. If the components are not properly connected, the DIRECT FUNCTION control cannot function.



5. THE DIRECT FUNCTION CONTROL

The DIRECT FUNCTION control automatically activates the PRO-A200 series tuner, tape deck, and phono without having to use a source switch of any kind.

When you turn ON the POWER switch of the AM-A200, the microcomputer automatically selects TUNER and the last station which was tuned in on your AT-A200's AM or FM band will be turned in.

- To activate the tape deck, for example, just press the Play (▶) button and the source will switch to tape playback.
- The Turntable functions when the tone arm is lifted.
- To operate equipment which is connected to the rear panel CD/VTR jacks, depress the CD/VTR switch to ON (⬇), then press that component's Play (▶) button.



SECTION 1

SERVICE MANUAL

MODEL AP-A100/C

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For basic adjustments, measuring methods, and operating principles, refer to GENERAL TECHNICAL MANUAL.

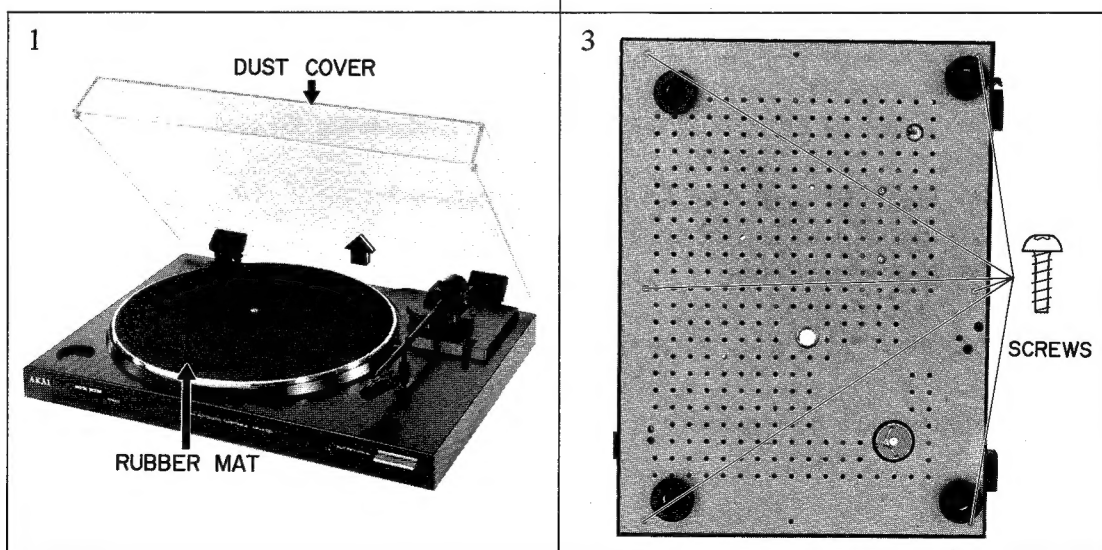
I. SPECIFICATIONS

| | |
|----------------------------------|---|
| TURNTABLE (PLATTER) | Aluminum alloy diecast |
| DRIVE SYSTEM | Direct drive |
| MOTOR | FG servo DC motor |
| SPEED | 33-1/3 & 45rpm |
| WOW & FLUTTER | 0.045% (WRMS) |
| RUMBLE | 70dB (DIN-B) |
| TONE ARM | Static balanced type |
| EFFECTIVE ARM LENGTH | 220mm |
| STYLUS PRESSURE ADJUSTMENT RANGE | 1.25g (fixed) |
| APPLICABLE CARTRIDGE WEIGHT | 5.9g |
| ARM LIFTER | Oil damped |
| OVER HANG | 17.5mm |
| CARTRIDGE (AP-A100/C only) | VM type (PC-35/ TP plug-in type) |
| OUTPUT VOLTAGE | 2.5mV |
| CHANNEL SEPARATION | More than 20dB |
| OPTIMAL STYLUS PRESSURE | 1.25g |
| DIMENSIONS | 440(W) × 99(H) × 347(D)mm (17.3 × 3.9 × 13.7 inches) |
| WEIGHT | 3.2kg (7.1 lbs) |

* For improvement purposes, specifications and design are subject to change without notice.

II. DISMANTLING OF UNIT

In case of trouble, etc. necessitating dismantling, please dismantle in the order shown in the photographs. Reassemble in reverse order.



III. CONTROLS

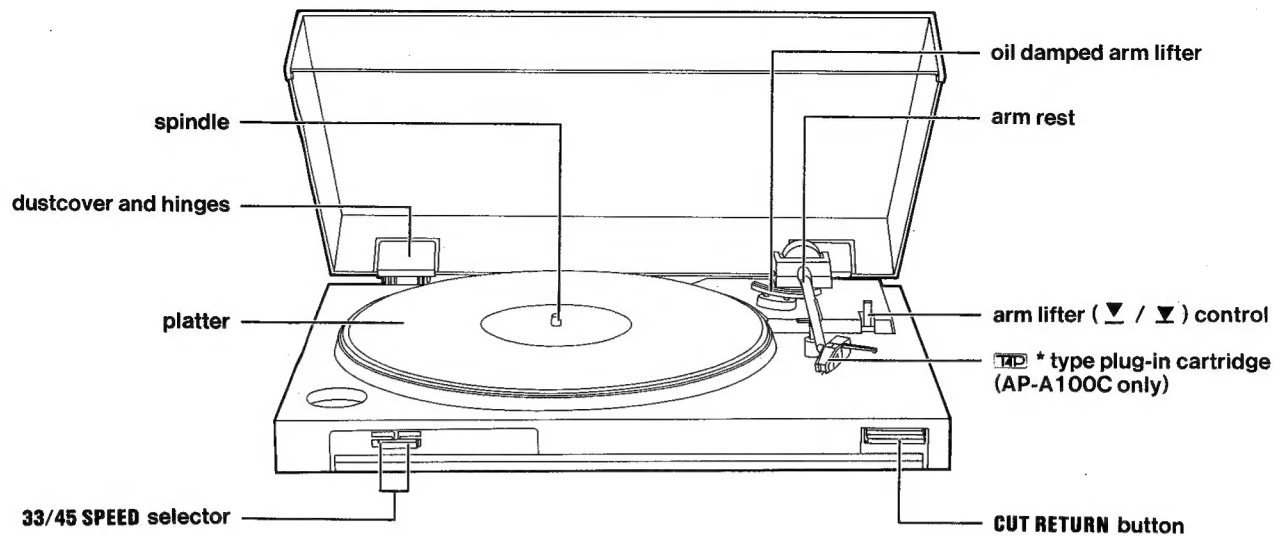


Fig. 3-1 Controls

IV. PRINCIPAL PARTS LOCATION

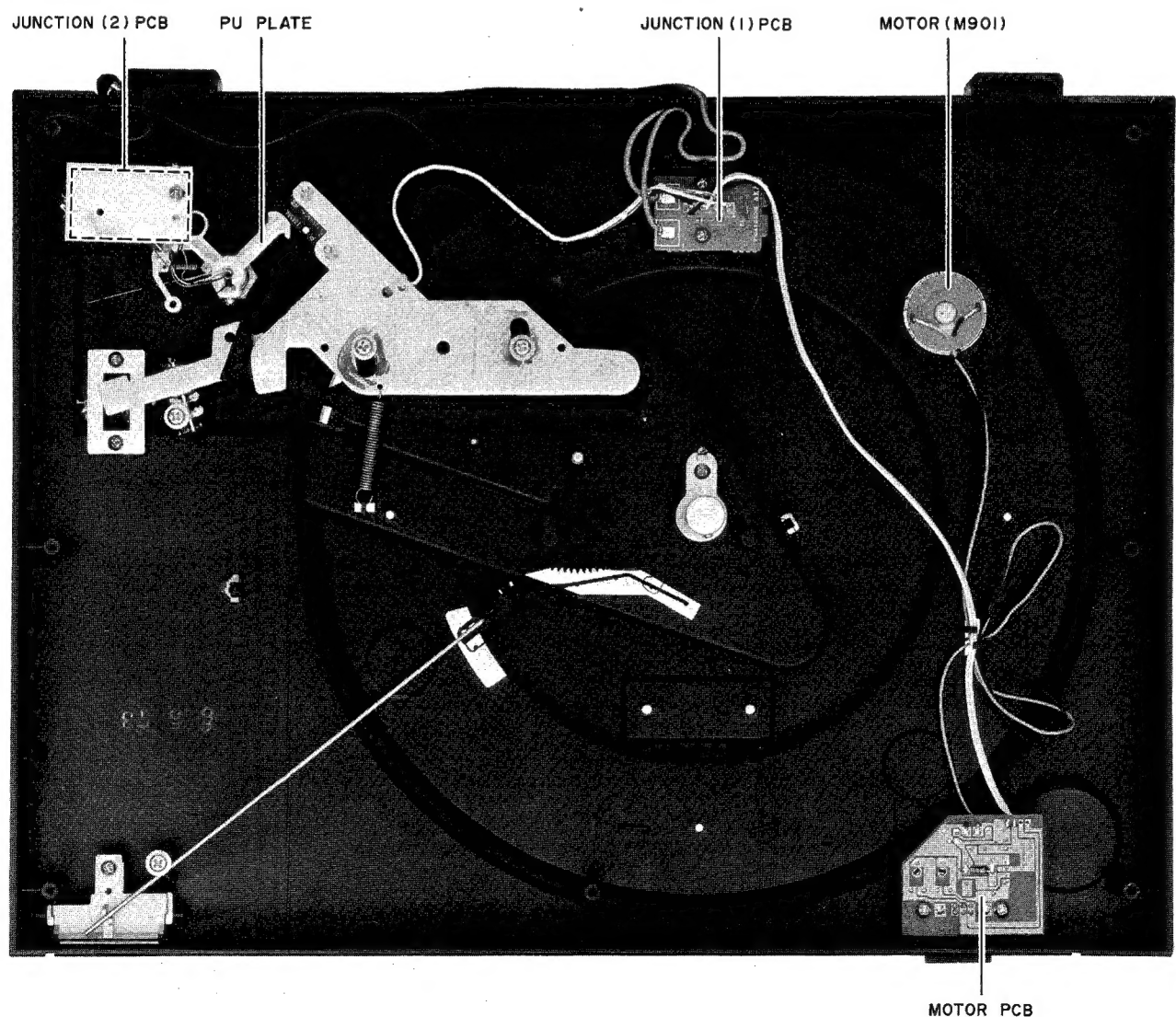


Fig. 4-1

V. REPLACEMENT OF CARTRIDGE AND TONE ARM ASSEMBLY

5-1. HOW TO CHANGE OR INSTALL THE CARTRIDGE (Refer to Fig. 5-1)

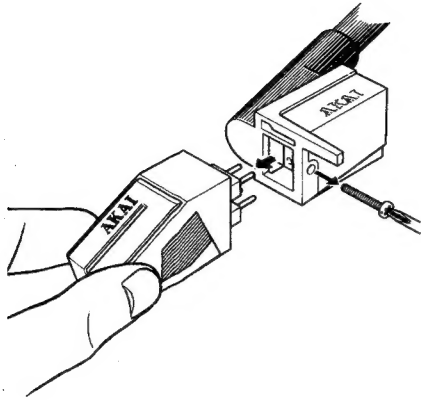




Fig. 5-1

With the tone arm on the tone arm rest and clamped, remove the screw on the side of the tone arm (directly behind the cartridge) by using a screwdriver. After removing the screw, grasp the cartridge firmly and pull it forward, away from the tone arm, until it is free. Replace the new cartridge by reversing the above operation.

In order to enjoy the full capability of the Akai AP-A100 please note the following when changing the cartridge.

- * Replace the cartridge with one which has the same output voltage (2.5mV/1kHz, 5cm/sec peak).
- *  is the standard mark for plug-in connectors. Connectors with this mark are compatible with each other. The Akai AP-A100 is equipped with a high quality VM cartridge, but any cartridge with the  mark can be used.
- * Let's protect the records.
Do not touch the grooves when handling the record.
Dirty grooves will produce distortions.
Store records standing in a well ventilated place, relatively free of dust.
- * Don't interrupt any movement.
Do not touch the tone arm or the platter and do not turn off the power under the following conditions:
 - * During record playback
 - * When the tone arm is moving automatically.
 - * When the platter is turning.
- * Be sure.
The ARM LIFTER is in the down (▼) position before attempting to clamp the tone arm to the tone arm rest.

5-2. HOW TO REPLACE THE TONE ARM ASSEMBLY (Refer to Fig. 5-2 to 5-3)

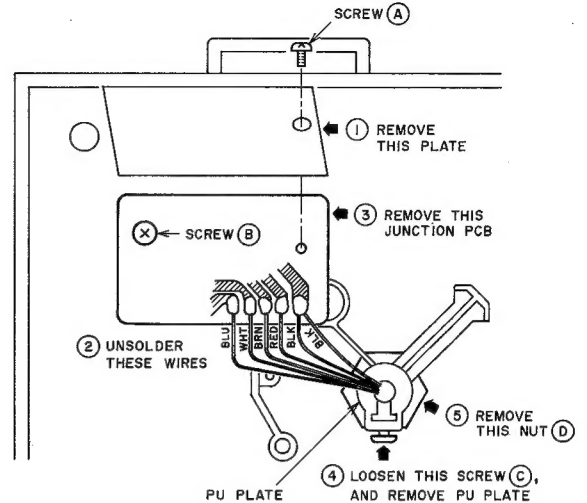


Fig. 5-2

- 1) Unscrew (A) and remove the shield plate.
- 2) Remove the wires from Tone Arm Assembly.
- 3) Unscrew (B) and remove the JUNCTION (2) PCB.
- 4) Loosen screw (C) and remove the PU lever.
- 5) Unscrew the Nut (D) and Remove the Tone Arm Assembly.
- 6) Install the New Tone Arm Assembly and do the reverse way.

After replaced the Tone Arm, PU plate position Adjustment is necessary as follow.

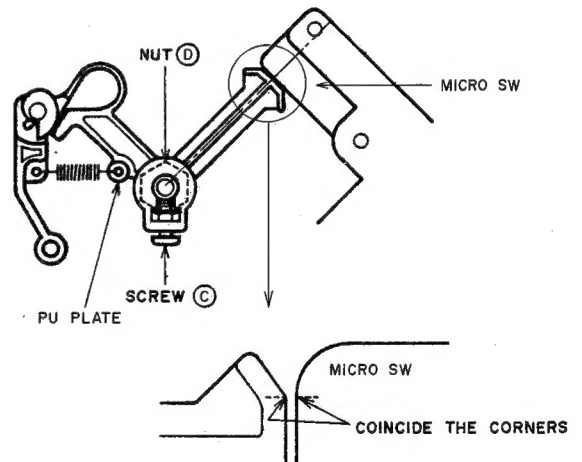


Fig. 5-3

- 1) Lock the Tone Arm on the TONE ARM REST.
- 2) Loosen the Screw (C), and Confirm that the PU PLATE is installed all the way into the Nut (D).
- 3) May loosen the screw (C) a little and turn PU PLATE so that the corner of those PU PLATE and Micro SW are coincide as shown Fig. 5-3.
- 4) Tighten screw (C).
- 5) Next excute an AUTO RETURN operation and confirm that the AUTO RETURN position is proper. Do the fine adjustment in item 6-2 AUTO-RETURN ADJUSTMENT if necessary.
- 6) Paint lock the screw (C) after the adjustment.

VI. MECHANICAL ADJUSTMENT

6-1. TONE ARM LIFTER HEIGHT ADJUSTMENT (Refer to Fig. 6-1, 6-2)

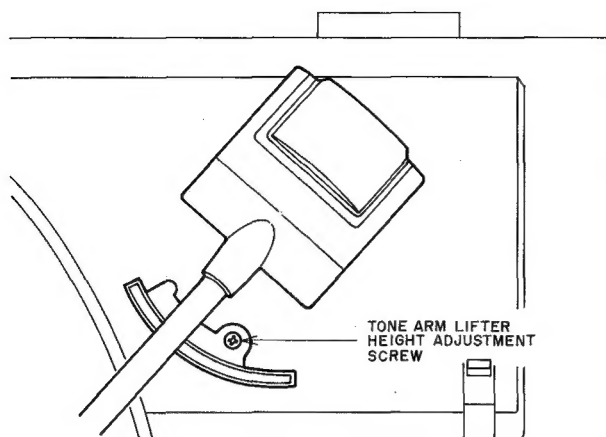


Fig. 6-1

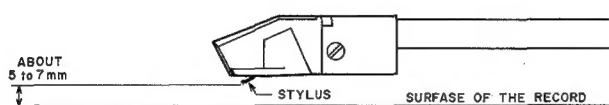


Fig. 6-2

With the Tone Arm in the up-position, the stylus should be about 6mm above the surface of the record. If it is not, adjust the height by adjusting the TONE ARM HEIGHT ADJUSTMENT SCREW.

Clockwise: Down
Counterclockwise: Up

6-2. AUTO-RETURN ADJUSTMENT (Refer to Fig. 6-3)

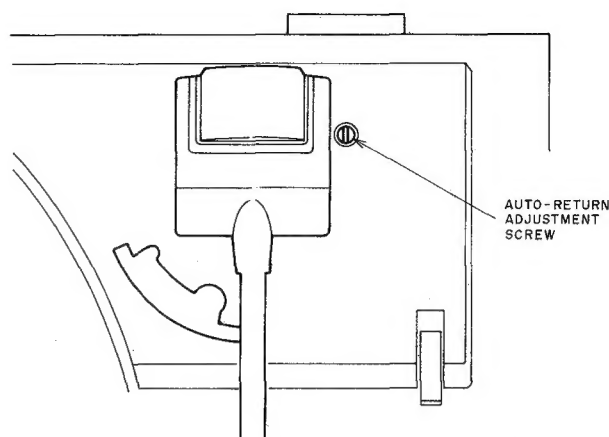


Fig. 6-3

If the Tone Arm does not return automatically to the TONE ARM REST at the end of record.

Adjust auto-return Adjustment screw as follow.

- * If the tone arm return before the end of the record
Turn the Auto-Return Adjustment Screw Clockwise.
- * If the tone arm does not return at the end of record
Turn the Auto-Return Adjustment Screw Counterclockwise.

CAUTION:

Do not turn the Auto-Return Adjustment screw too much.

VII. ELECTRICAL ADJUSTMENT

7-1. SPEED ADJUSTMENT

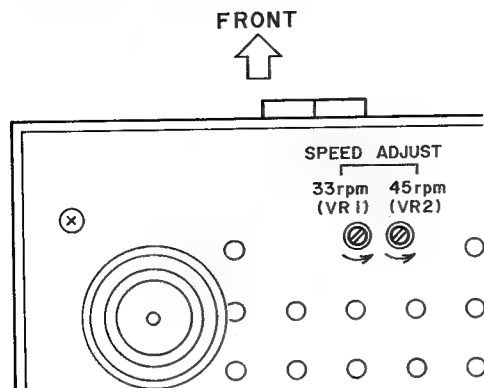


Fig. 7-1 Speed Adjustment Points

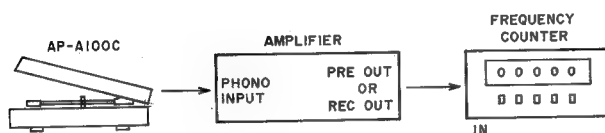


Fig. 7-2 Instruments Connection

- 1) Connect a Amplifier and Frequency counter as shown Fig. 6-2.
- 2) Set the Speed Selector to 33-1/3rpm.
- 3) Play back the Test Record (1000Hz, 33-1/3rpm), and Adjust VR1 so that the speed is $1000 \pm 10\text{Hz}$.
- 4) Set the speed Selector to 45rpm.
- 5) Play back the Test Record (1000Hz, 45rpm), and adjust VR2 so that the speed is $1000 \pm 10\text{Hz}$.

NOTE:

This Speed Adjustment should be adjust 33-1/3rpm position first then adjust 45rpm next.

VII. P.C BOARD TITLES AND IDENTIFICATION NUMBERS

| PC BOARD TITLE | | PC BOARD NUMBER | REMARKS |
|----------------|----------|-----------------|---------|
| MOTOR | PC BOARD | G-80 | |
| JUNCTION (1) | PC BOARD | P1047D501A | |
| JUNCTION (2) | PC BOARD | P1047D501B | |



SECTION 2

SERVICE MANUAL

MODEL AP-A200/C

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For basic adjustments, measuring methods, and operating principles, refer to GENERAL TECHNICAL MANUAL.

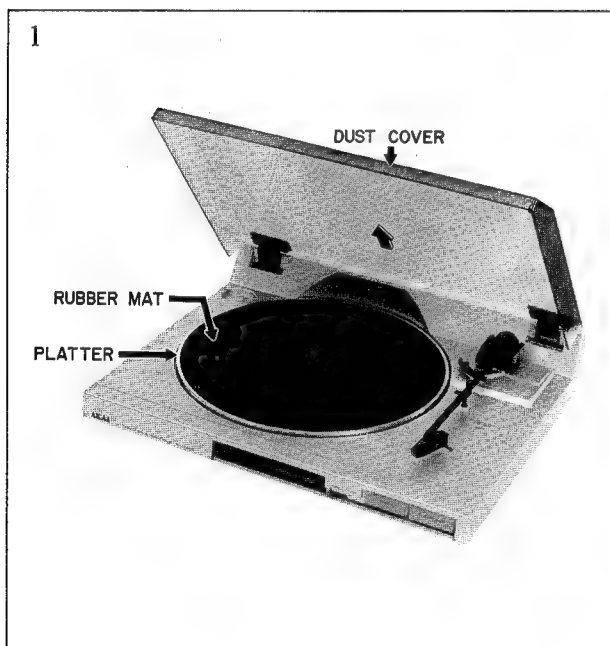
I. SPECIFICATIONS

| | |
|-----------------------------|--|
| TURNTABLE (PLATTER) | Aluminum alloy diecast |
| DRIVE SYSTEM | Direct Drive Semi-automatic |
| MOTOR | FG Servo DC motor |
| SPEED | 33-1/3 & 45 rpm |
| WOW & FLUTTER | 0.045% (WRMS) |
| RUMBLE | 70dB (DIN-B) |
| TONE ARM | Static balanced type |
| EFFECTIVE ARM LENGTH | 220mm |
| STYLUS PRESSURE ADJUSTMENT | Oil damped |
| STYLUS RANGE ADJUSTMENT | 1.25g (Final) |
| APPLICABLE CARTRIDGE WEIGHT | (TP) Plug in Type) |
| CARTRIDGE (AP-200C only) | VM type (PC-35/ TP) Plug in Type) |
| OUTPUT VOLTAGE | 2.5mV |
| CHANNEL SEPARATION | More than 20dB |
| OPTIMAL STYLUS PRESSURE | 1.25g |
| DIMENSIONS | 440(W) x 346.5(D) x 94(H) mm (17.3 x 13.6 x 3.7 inches) |
| WEIGHT | 3.2kg (7.0 lbs) |

* For improvement purposes, specifications and design are subject to change without notice.

II. DISMANTLING OF UNIT

In case of trouble, etc. necessitating dismantling, please dismantle in the order shown in the photographs. Reassemble in reverse order.



III. CONTROLS

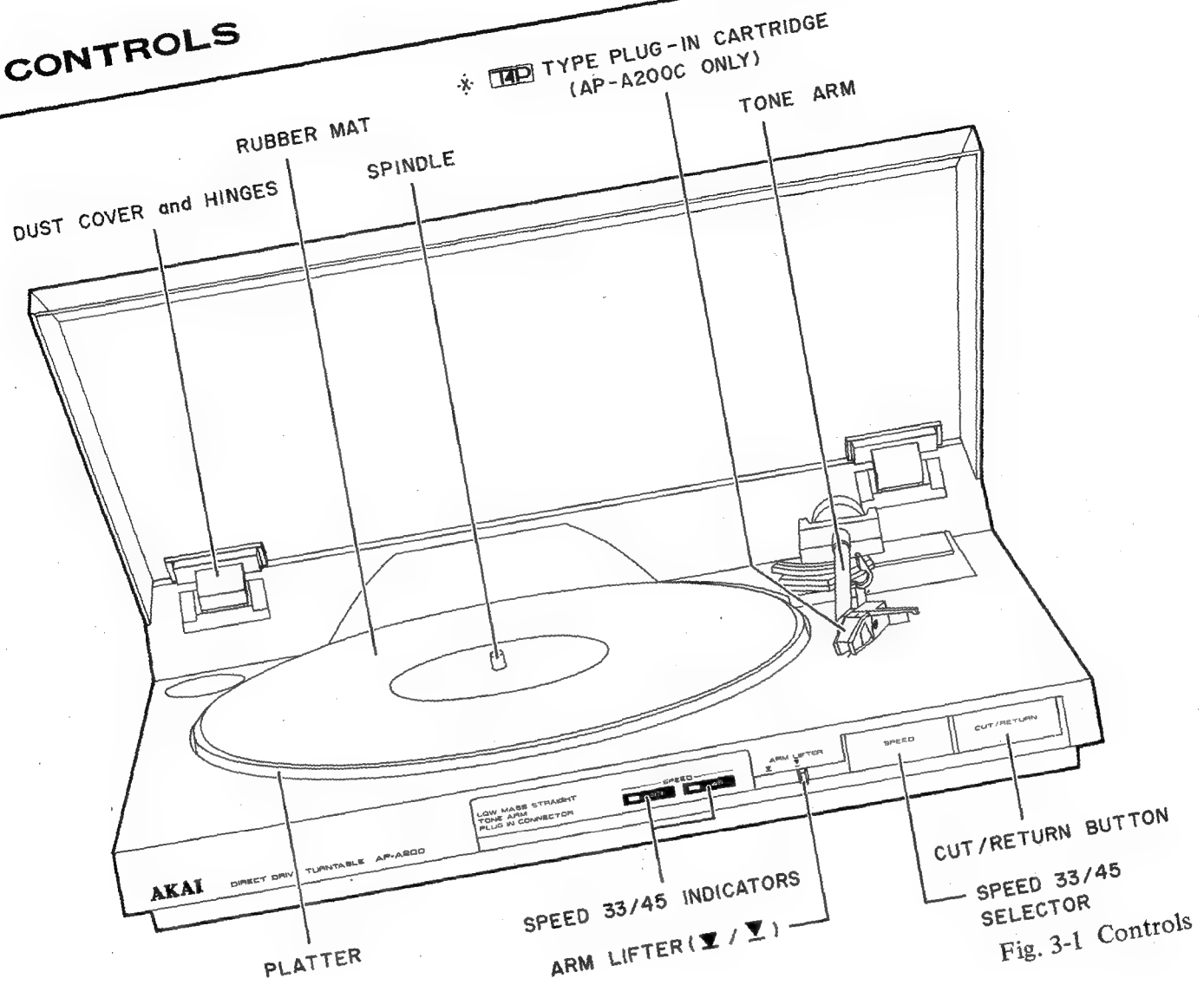


Fig. 3-1 Controls

IV. PRINCIPAL PARTS LOCATION

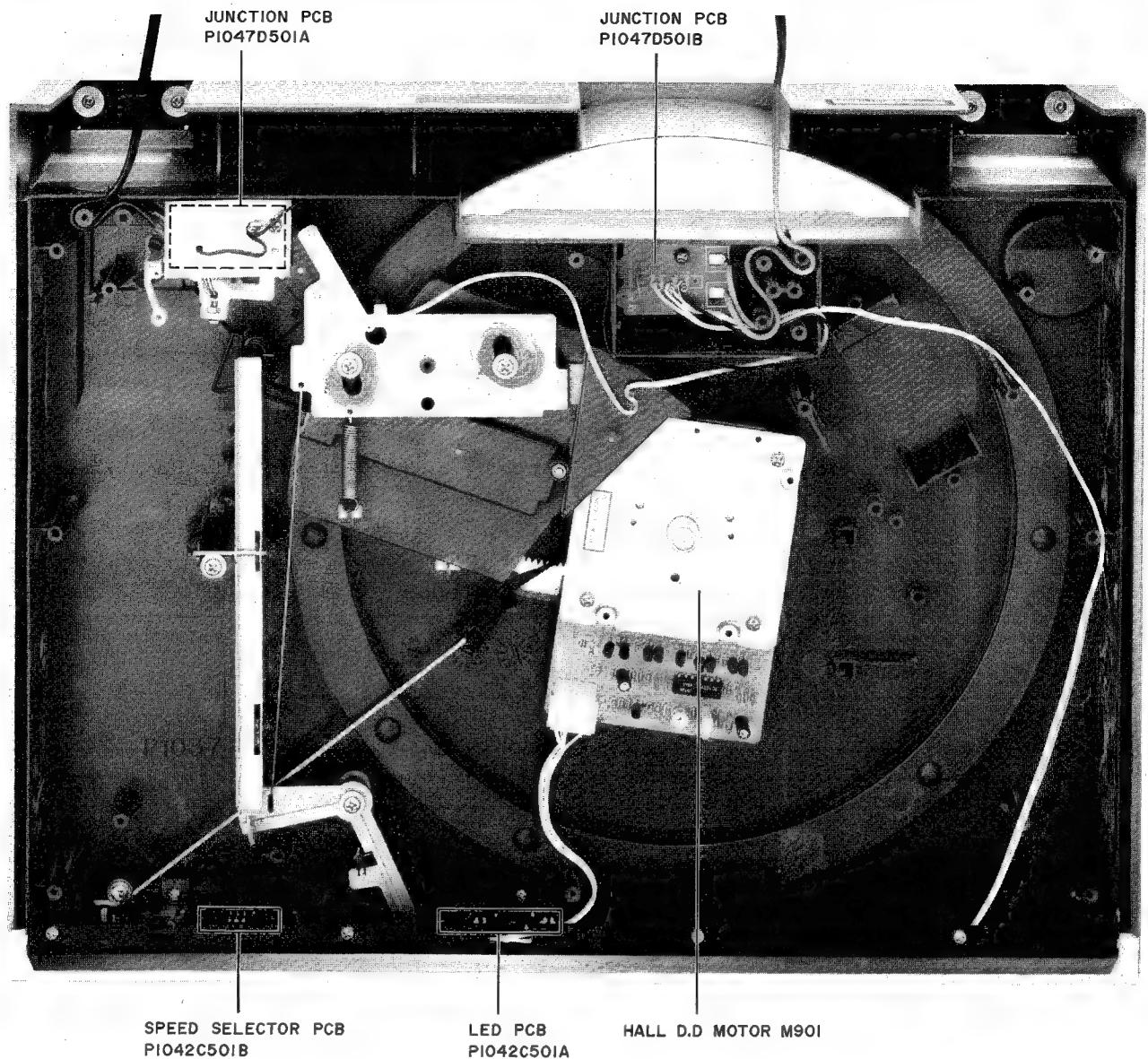


Fig. 4-1 Bottom Side View

V. HOW TO CHANGE OR INSTALL THE CARTRIDGE

With the tone arm on the tone arm rest and clamped, remove the screw on the side of the tone arm—directly behind the cartridge—by using a screwdriver. After removing the screw, grasp the cartridge firmly and pull it forward, away from the tone arm, until it is free. Replace the new cartridge by reversing the above operation.

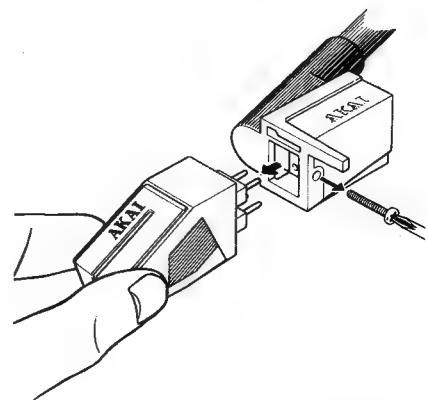


Fig. 5-1

VI. MECHANICAL ADJUSTMENT

6-1. TONE ARM HEIGHT ADJUSTMENT

* WHEN AUTO-CUT (Auto-Return) MODE (Refer to Figs. 6-1 and 6-2).

Set the play mode, and push the Cut Button. While returning the Tone Arm, confirm the height of the Tone Arm, so that the height are 0.5 to 1.0 mm from flat face of Tone Arm Rest.

If the height is without 0.5 to 1.0 mm, adjust Tone Arm Lifter Height Adjustment screw.

Counterclockwise: Up
Clockwise: Down

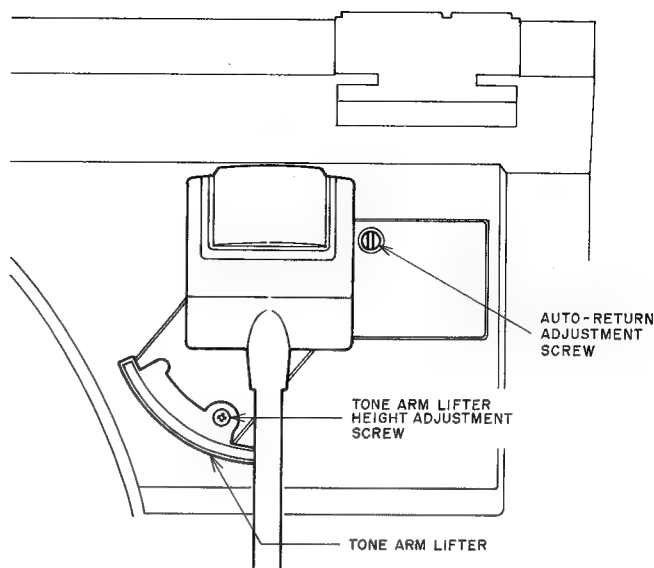


Fig. 6-1

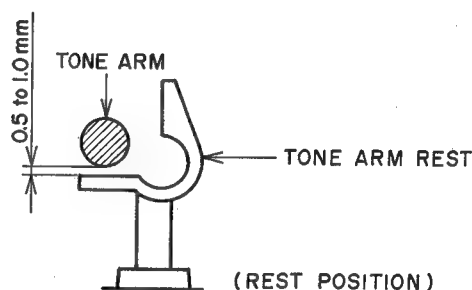
6-2. AUTO-RETURN ADJUSTMENT

(Refer to Fig. 6-1)

If the Tone Arm does not return automatically to the Tone Arm Rest at the end of the playback, or does so during playback:

- 1) Leave the Power Cord connected.
- 2) Adjust the Auto-Return Adjustment Screw.
Turn clockwise:
If the Tone Arm returns before the end of record.
Turn counterclockwise:
If the Tone Arm does not return at the end of record.

* Do not turn the screw counterclockwise too much.



6-3. RETURN ARM POSITION ADJUSTMENT (Refer to Figs. 6-3 & 6-4)

Fig. 6-2

After, replaced the Tone Arm, PU LEVER position Adjustment is necessary as follow.

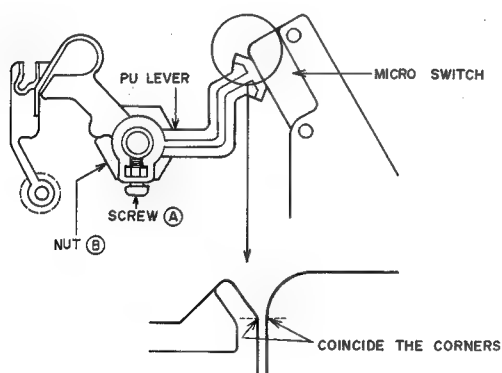


Fig. 6-3

- 1) Lock the Tone Arm on the ARM REST.
- 2) Loosen the Screw A, and confirm that the PU LEVER is installed all the way in the Nut B.
- 3) Turn the PU LEVER so that the corner of those PU LEVER and Micro switch are coincide as shown in Fig. 6-3.
- 4) Tighten the Screw A.
- 5) Move the Tone Arm to the spindle side, and confirm that micro switch is switched "ON" at about center between Tone Arm Rest position and platter as shown in Fig. 6-4.

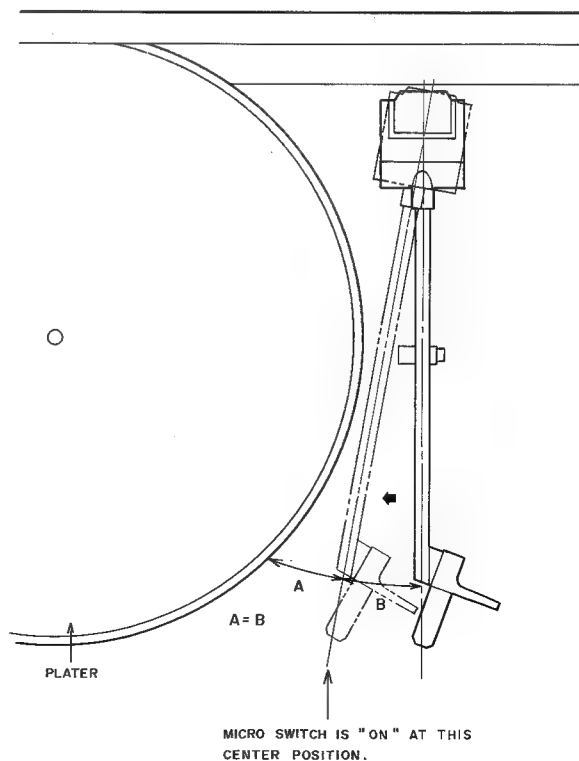


Fig. 6-4

VII. ELECTRICAL ADJUSTMENT

7-1. SPEED ADJUSTMENT

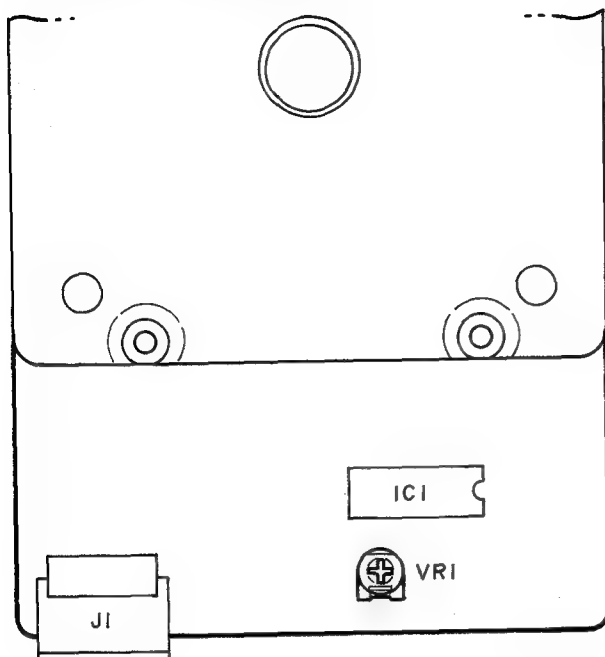


Fig. 7-1

- 1) Set the Speed Selector to 33-1/3rpm.
- 2) Playback the Test Record (33-1/3rpm, 1000Hz).
- 3) Adjust VR1 (10kohms) so that the speed is 1000 \pm 10Hz.
- 4) Set the Speed Selector to 45rpm.
- 5) Playback the Test Record (45rpm, 1000Hz).
- 6) Confirm that the Speed is 1000 \pm 10Hz.

VIII. P.C BOARD TITLES AND IDENTIFICATION NUMBERS

| PC BOARD TITLE | | PC BOARD NUMBER | REMARKS |
|-------------------------|----------|-----------------|---------|
| LED | PC BOARD | P1042C501A | |
| SPEED SELECTOR PC BOARD | | P1042C501B | |
| JUNCTION (A) | PC BOARD | P1047D501A | |
| JUNCTION (B) | PC BOARD | P1047D501B | |

I. SPECIFICATIONS

FM TUNER SECTION

| | |
|---------------------------------|---------------------------------|
| TUNING FREQUENCY RANGE | 87.5MHz to 108.0MHz |
| USABLE SENSITIVITY (300ohms) | 12.7dBf |
| QUIETING SENSITIVITY (S/N=50dB) | 19.2dBf (Mono)/40.2dBf (Stereo) |
| CAPTURE RATIO | 2.0dB |
| SELECTIVITY (400kHz) | 60dB |
| IMAGE REJECTION | 50dB |
| IF REJECTION | 80dB |
| SPURIOUS REJECTION | 80dB |
| AM SUPPRESSION | 50dB |
| SUB CARRIER SUPPRESSION | 55dB |
| S/N (IHF) | 70dB (Mono)/60dB (Stereo) |
| T.H.D. | 0.2% (Mono)/0.4% (Stereo) |
| STEREO SEPARATION (1kHz) | 40dB |
| FREQUENCY RESPONSE | 30Ha to 15kHz ± 1.0 dB |

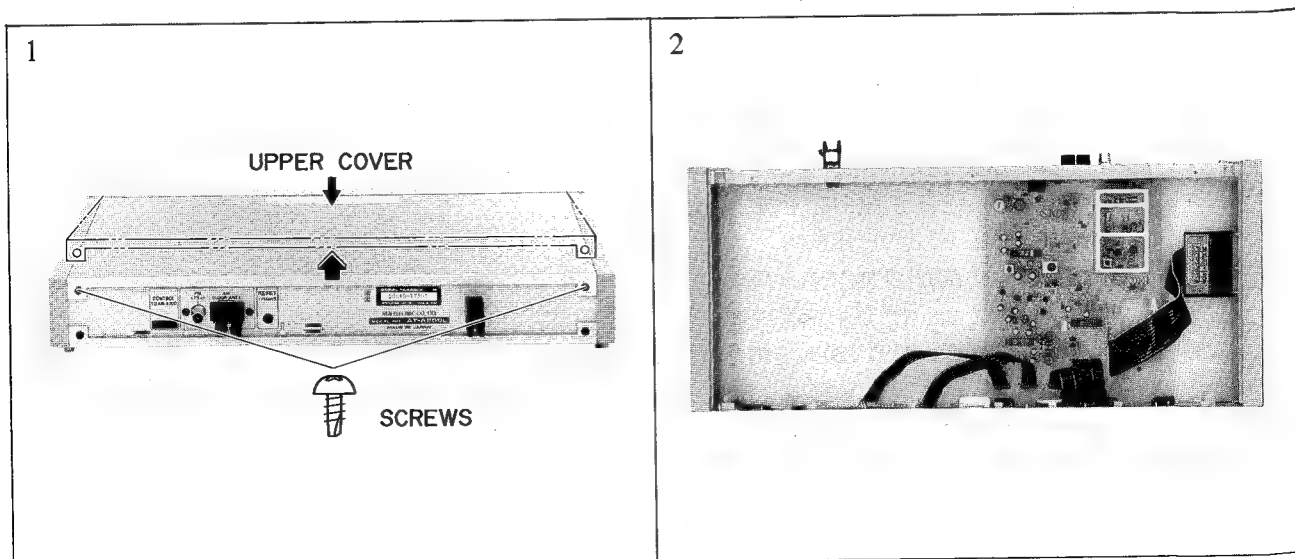
AM TUNER SECTION (MW & LW FOR AT-A200L)

| TUNING FREQUENCY RANGE | AM tuner section | LW tuner section |
|-----------------------------------|---|------------------|
| USA & CANADA | 530kHz to 1,610kHz | — |
| OTHER COUNTRIES | 531kHz to 1,602kHz | 146kHz to 353kHz |
| USABLE SENSITIVITY (LOOP ANTENNA) | 300uV/m | 800uV/m |
| SELECTIVITY | 30dB | 40dB |
| IMAGE REJECTION | 45dB | 45dB |
| IF REJECTION | 35dB | 35dB |
| S/N | 40dB | 35dB |
| T.H.D. | 1.0% | 2.0% |
| OUTPUT SECTION | | |
| OUTPUT LEVEL FM | 700mV (100% Mod.) | |
| AM (MW FOR AT-A200L) | 250mV (30% Mod.) | |
| DIMENSIONS | 440(W) \times 66(H) \times 210(D) mm (17.3 \times 2.6 \times 8.3 inches) | |
| WEIGHT | 1.6kg (3.5 lbs) | |

* For improvement purposes, specifications and design are subject to change without notice.

II. DISMANTLING OF UNIT

In case of trouble, etc. necessitating dismantling, please dismantle in the order shown in the photographs. Reassemble in reverse order.



III. CONTROLS

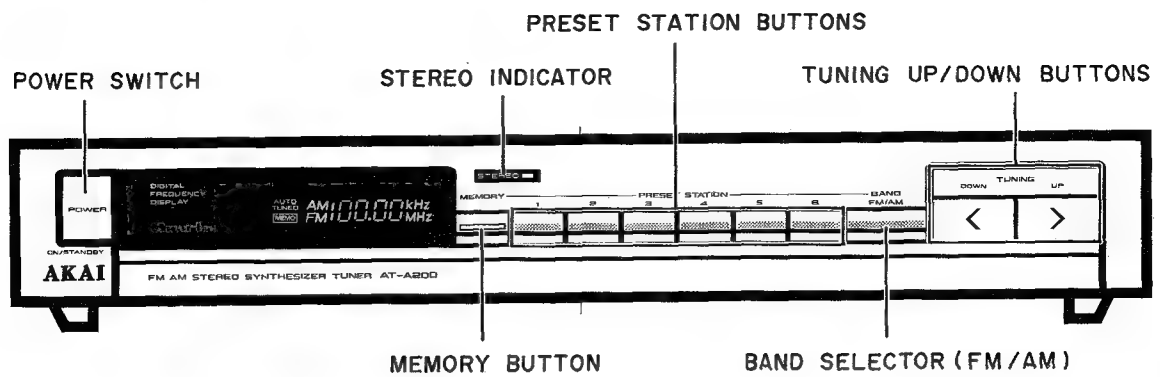


Fig. 3-1 Control

IV. PRINCIPAL PARTS LOCATION

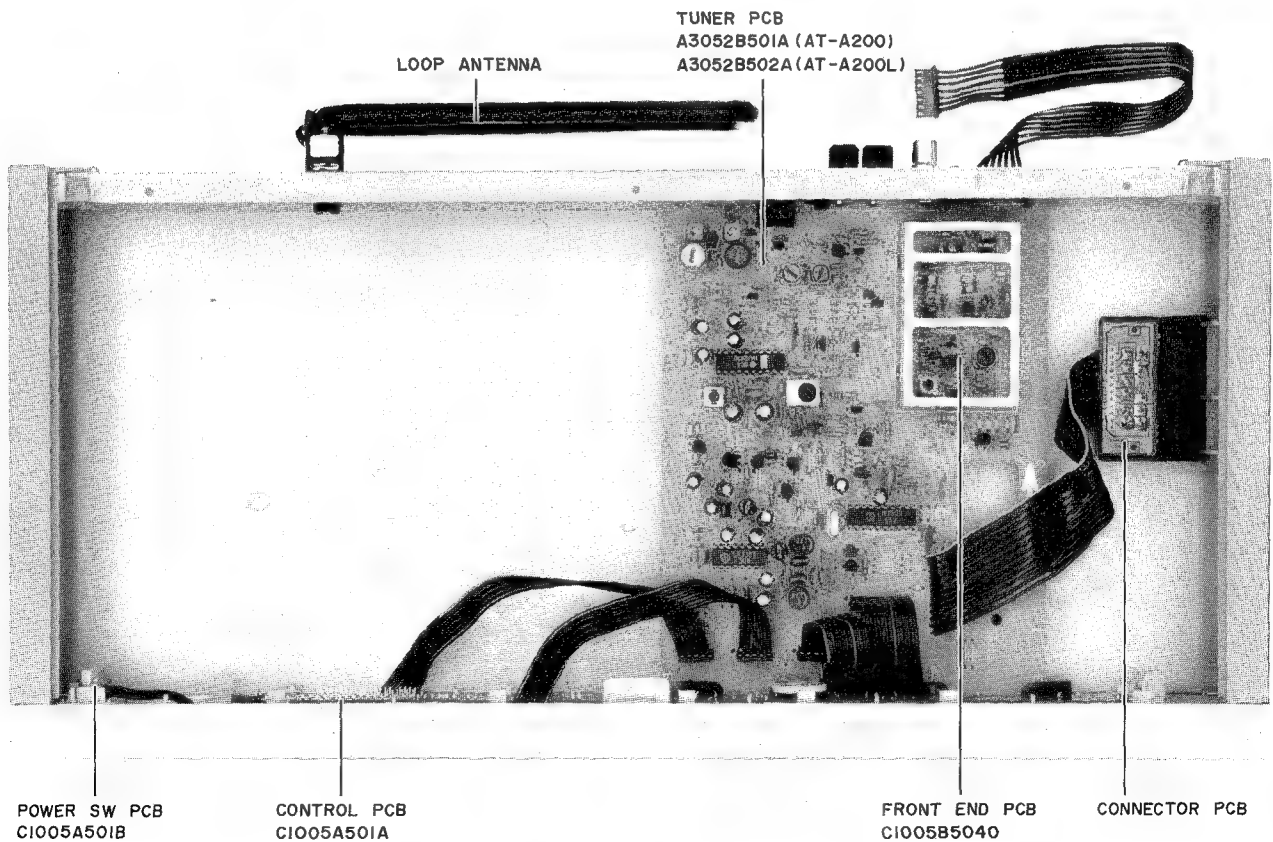


Fig. 4-1

V. ELECTRICAL ADJUSTMENT

5-1. INSTRUMENT CONNECTIONS FOR TUNER ADJUSTMENT

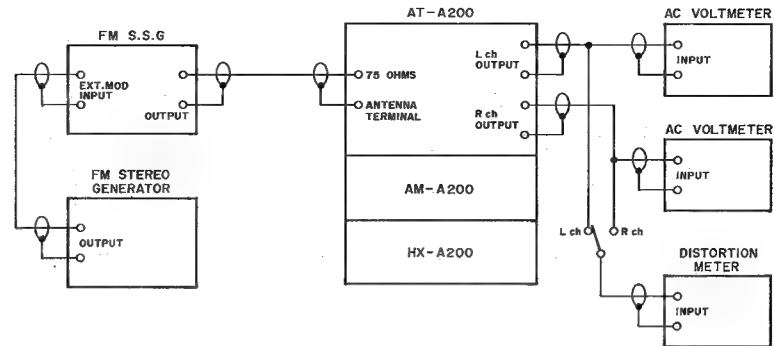


Fig. 5-1 Instrument Connections for FM Section Adjustment

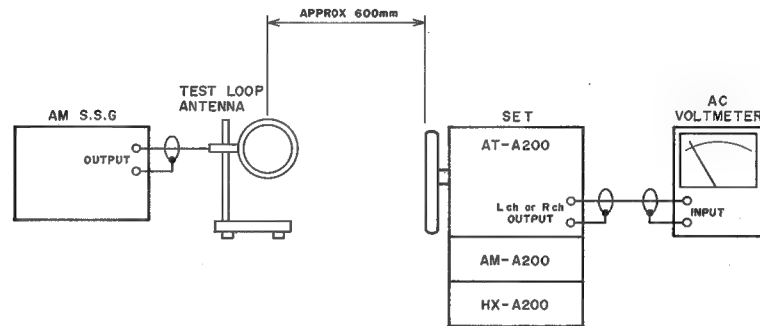


Fig. 5-2 Instrument Connections for AM (MW, LW) Section Adjustment

5-2. TUNER PCB ADJUSTMENT POINT

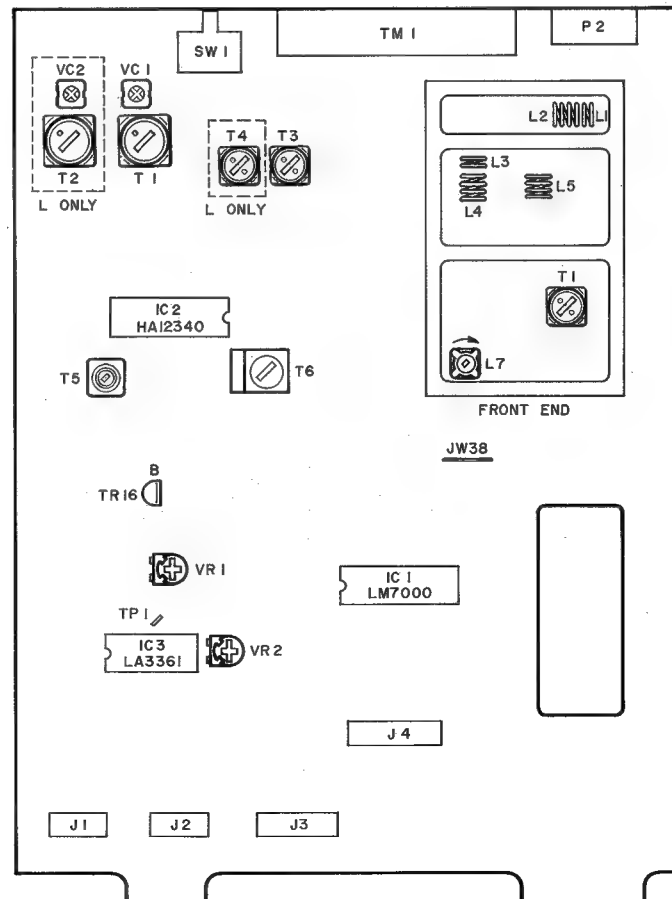


Fig. 5-3 Tuner PCB (Parts Side View)

5-3. FM SECTION ADJUSTMENTS

- NOTE: 1. Set the S.S.G. to 1kHz, 75kHz deviation for U, C, A, S 40kHz deviation for B, E, V.
 2. Set the Band Switch to FM.
 3. (MHz) indicate for B, E, V model.
 4. 0dBu = 1uV

| Step | Adjustment Item | S.S.G. | SET | Adjustment Parts | Result | Remarks |
|------|---|-------------------------------------|-------------------|-------------------------|--|---|
| | | Freq./ATT | Tuning | | | |
| 1 | FM OSC | — | 87.5MHz | L7 (Front End) | 3.5±0.05V | 1) Connect a Digital Volt Meter between JW38 and GND. |
| 2 | Low Range Sensitivity | 88MHz 10dBu (MONO) | 88MHz | L2,L4,L5 (Front End) | Less than 3% Distortion | 1) Connect a wire between Base of TR16 and GND. (Mute OFF) |
| 3 | High Sensitivity | 108MHz 10dBu (MONO) | 108MHz | L2,L4,L5 (Front End) | Less than 3% Distortion | 1) Connect a wire between Base of TR16 and GND. (Mute OFF) |
| 4 | For best Result, Repeat steps 2 and 3 two or three times. | | | | | |
| 5 | Distortion (MONO) | 88MHz 60dBu (MONO) | 88MHz | T5 | Less than 1% Distortion | |
| 6 | MPX Free Running Frequency | — | — | VR1 | 19kHz±50Hz | 1) Connect a Frequency counter between TP1 and GND. |
| 7 | Distortion (Stereo) | 98MHz 60dBu Stereo Lch (Rch) | 98MHz (100MHz) | T 1 (Front End) | Less than 1% Distortion | See Note 3 |
| 8 | Stereo Separation | 98MHz 60dBu 'Stereo Lch (Rch) | 98MHz | VR2 | More than 35dBm Minimum Output of Rch (Lch) | |

5-4. LW SECTION ADJUSTMENTS (AT-A200L ONLY)

- NOTE: 1) Set the S.S.G. to 1kHz 30% modulation.

| Step | Adjustment Item | S.S.G. | SET | Adjustment Parts | Result | Remarks |
|------|---|-----------------|--------|------------------|-----------------------------|---|
| | | Freq./ATT | Tuning | | | |
| 1 | LW OSC | — | 300kHz | T4 | 5.82±0.05V | 1) Connect a Digital Volt Meter between JW38 and GND. |
| 2 | Low Range Sensitivity | 160kHz 65dBu | 160kHz | T2,T6 | Less than 10% Distortion | |
| 3 | High Range Sensitivity | 300kHz 65dBu | 300kHz | VC2 | Less than 10% Distortion | |
| 4 | For best Result, Repeat steps 2 and 3 two or three times. | | | | | |
| 5 | Distortion Confirmation | 200kHz 74dBu | 200kHz | None | Less than 3% Distortion | |

5-5. AM (MW) SECTION ADJUSTMENT

NOTE: 1) Set the S.S.G. to 1kHz 30% modulation.

2) (kHz) in S.S.G. frequency and set tuning indicates the Test Frequency in AM 9kHz STEP Area.

AM (MW)

| Step | Adjustment Item | S.S.G. Freq./ATT | SET Tuning | Adjustment Parts | Result | Remarks |
|------|---|-------------------------------|----------------------|---------------------|-----------------------------|--|
| 1 | AM (MW) OSC | — | 1400kHz (1404kHz) | T3 | 6.7±0.1V | 1) Connect a Digital Volt Meter between JW38 and GND. |
| 2 | Low Range Sensitivity | 600kHz (603kHz) 60dBu | 600kHz (603kHz) | T1,T6 | Less than 10% Distortion | |
| 3 | High Range Sensitivity | 1400kHz (1404kHz) 60dbu | 1400kHz (1404kHz) | VC1 | Less than 10% Distortion | |
| 4 | For best Result, Repeat steps 2 and 3 two or three times. | | | | | |
| 5 | Distortion (Confirmation) | 1000kHz (999kHz) 74dBu | 1400kHz (999kHz) | None | Less than 2% Distortion | |

VI. PC BOARD TITLES AND IDENTIFICATION NUMBERS

| PC BOARD TITLE | | PC BOARD NUMBER | REMARK |
|----------------|----------|-----------------|----------|
| TUNER | PC BOARD | A3052B501A | AT-A200 |
| TUNER | PC OBARD | A3052B502A | AT-A200L |
| CONNECTOR | PC BOARD | A3052B502B | |
| CONTROL | PC BOARD | C1005A501A | |
| POWER SW | PC BOARD | C1005A501B | |
| FRONT END | PC BOARD | C1005B5040 | |



SECTION 4

SERVICE MANUAL

MODEL AM-A200

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| VI. PC BOARD TITLES AND IDENTIFICATION NUMBERS | 26 |

For basic adjustments, measuring methods, and operating principles; refer to GENERAL TECHNICAL MANUAL.

I. SPECIFICATIONS

POWER AMPLIFIER SECTION

| | |
|---------------------------------------|---|
| | 8ohms |
| RATED POWER OUTPUT 40Hz to 20kHz | 35W/0.3% |
| POWER OUTPUT (BY FTC) 20Hz to 20kHz | 35W/0.3% |
| FRENCH NORMAL (8ohms) 63Hz to 12.5kHz | 40W/0.7% |
| DIN 1kHz | 40W/0.7% |
| MUSIC POWER (BOTH CHANNELS) | 180W |
| POWER BANDWIDTH (IHF -3dB, 8ohms) | 10Hz to 40kHz (0.5%) |
| S/N (IHF-A) PHONO | 70dB |
| AUX | 90dB |
| RESIDUAL NOISE (8ohms) | 0.5mV |
| CHANNEL SEPARATION (IHF, 1kHz) | 50dB |
| DAMPING FACTOR (1kHz, 8ohms) | 30 |
| REQUIRED SPEAKER IMPEDANCE | A or B 8 to 16ohms A and B 8 to 16ohms |

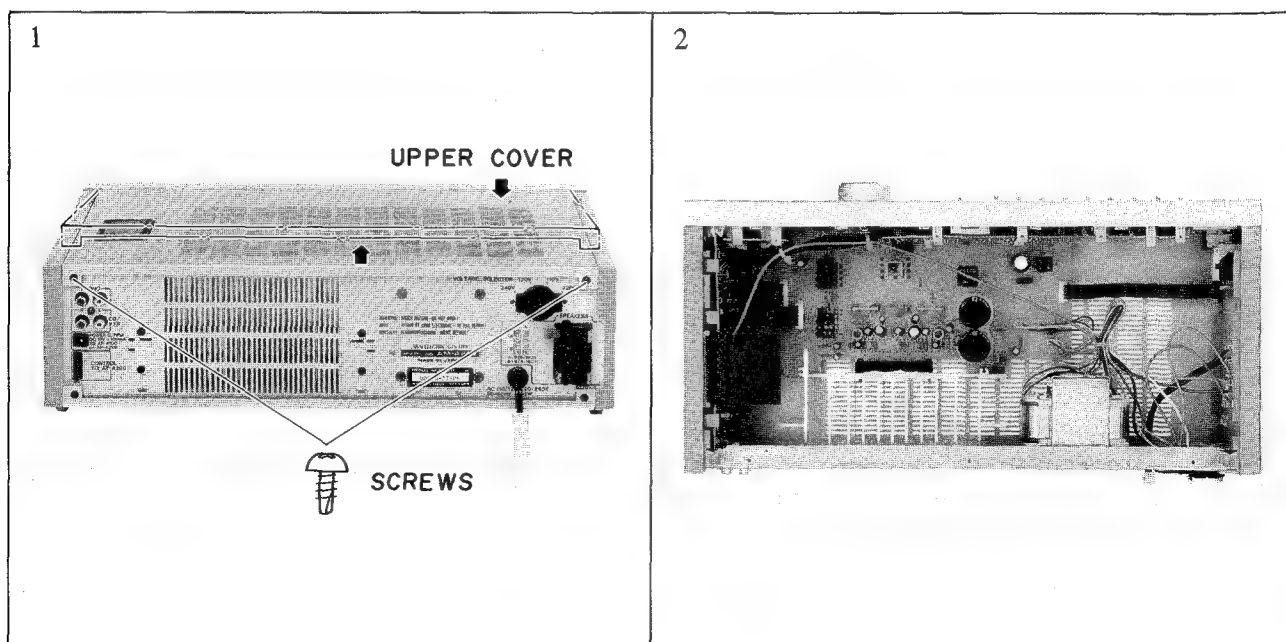
PRE AMPLIFIER SECTION

| | | |
|-----------------------------|--------|--|
| INPUT SENSITIVITY/IMPEDANCE | PHONO | 2.0mV/47kohms |
| | CD/VTR | 250mV/47kohms |
| FREQUENCY RESPONSE | | |
| PHONO (RIAA DEVIATION) | | ±0.5dB |
| TUNER, AUX, TAPE | | 5Hz to 100kHz (-3dB) |
| GRAPHIC EQUALIZER | | |
| TYPE | | 9 bands |
| CENTER FREQUENCY | | 63Hz/125Hz/250Hz/500Hz/1kHz/2kHz/4kHz 8kHz 16kHz |
| CONTROL RANGE | | ±10dB |

* For improvement purposes, specifications and design are subject to change without notice.

II. DISMANTLING OF UNIT

In case of trouble, etc. necessitating dismantling, please dismantle in the order shown in the photographs. Reassemble in reverse order.



III. CONTROLS

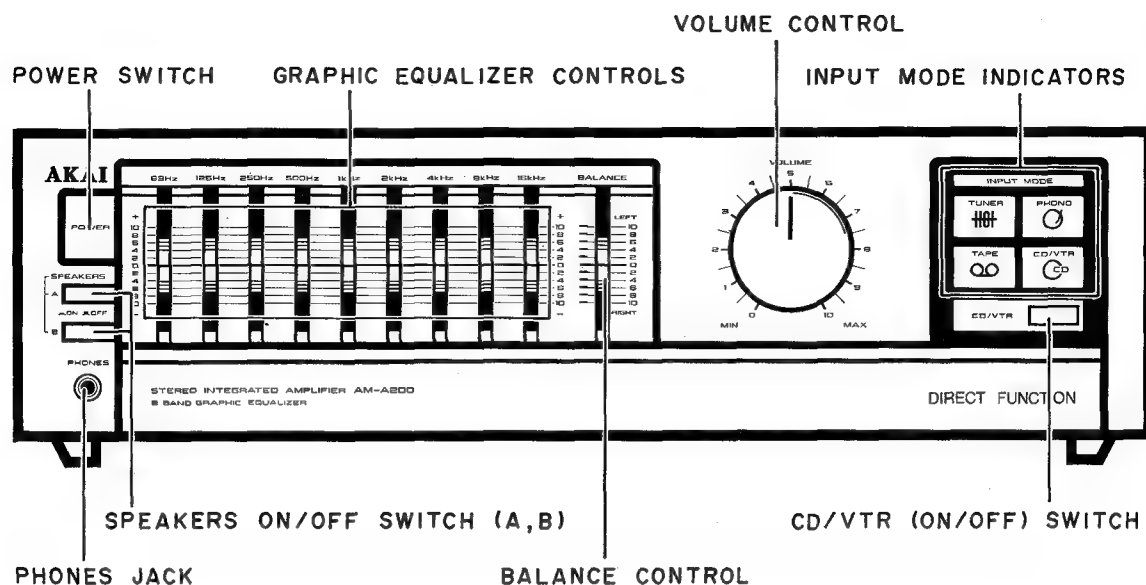


Fig. 3-1 Control

IV. PRINCIPAL PARTS COCATION

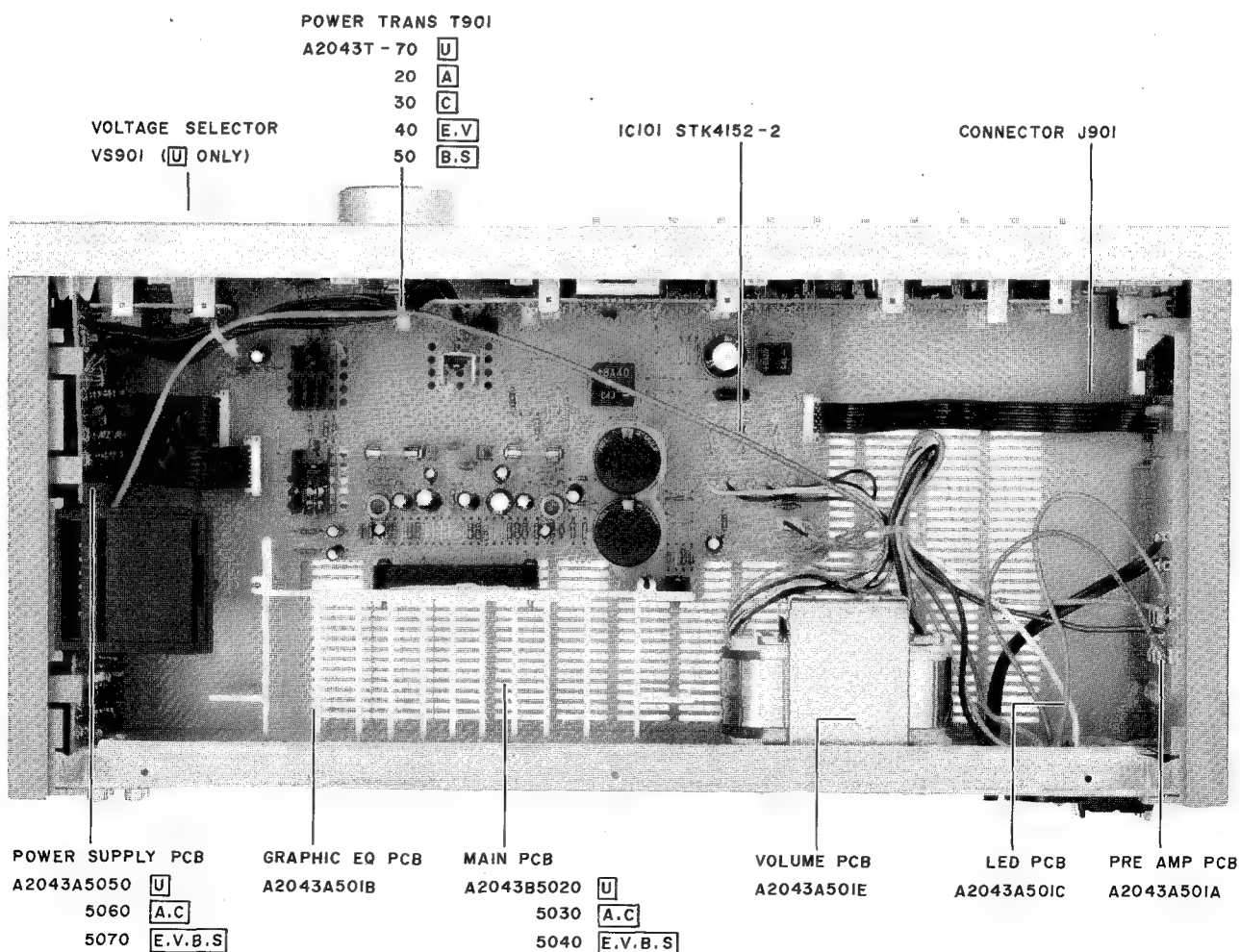


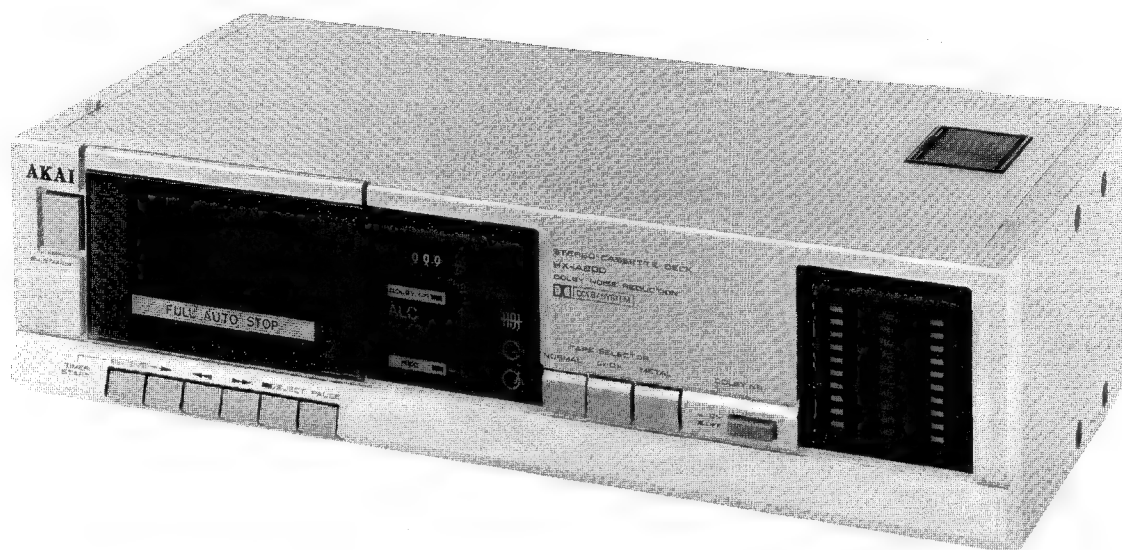
Fig. 4-1

V. ADJUSTMENT

No Adjustment is necessary for this model.

VI. PC BOARD TITLES AND IDENTIFICATION NUMBERS

| PC BOARD TITLE | | PC BOARD NUMBER | REMARKS |
|----------------|----------|-----------------|------------|
| MAIN | PC BOARD | A2043B5020 | U |
| | | 5030 | C, A |
| | | 5040 | E, V, B, S |
| POWER SUPPLY | PC BOARD | A2043A5050 | U |
| | | 5060 | A, C |
| | | 5070 | E, V, B, S |
| PRE AMP | PC BOARD | A2043A501A | |
| GRAPHIC EQ | PC BOARD | 501B | |
| LED | PC BOARD | 501C | |
| VOLUME | PC BOARD | 501D | |
| CONNECTOR (A) | PC BOARD | 501E | |
| CONNECTOR (B) | PC BOARD | 501F | |



SECTION 5

SERVICE MANUAL

MODEL HX-A200

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For basic adjustments, measuring methods, and operating principles, refer to GENERAL TECHNICAL MANUAL.

I. SPECIFICATIONS

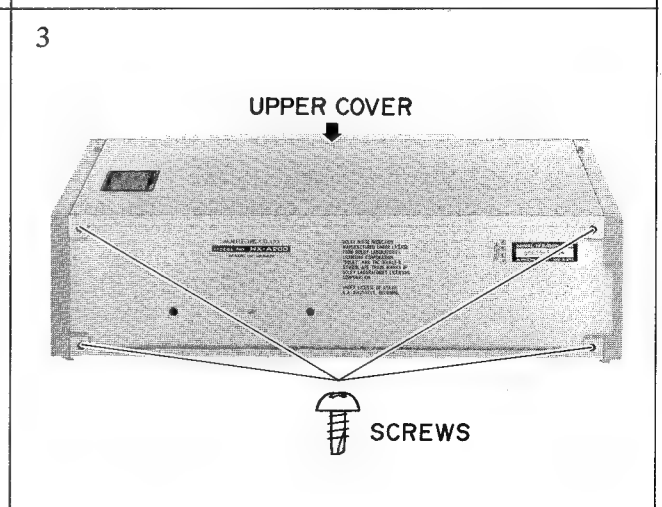
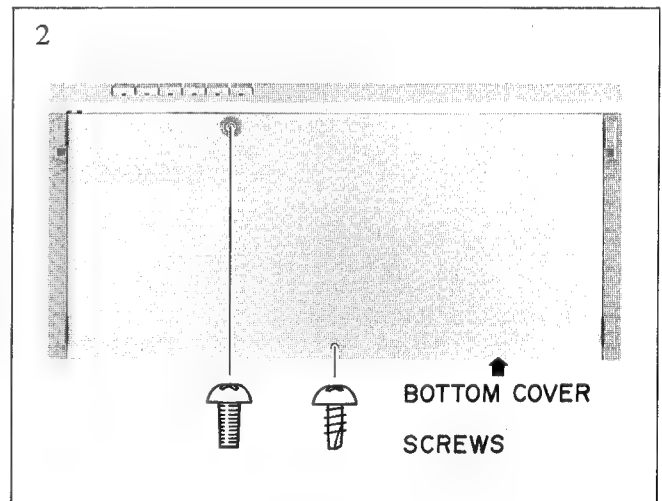
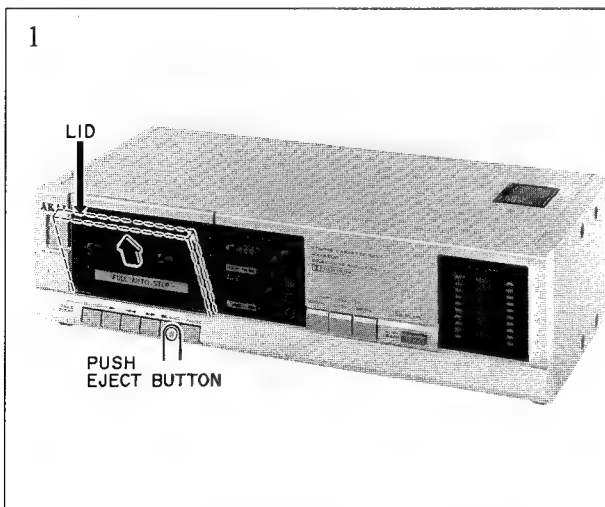
| | |
|---------------------|---|
| TRACK SYSTEM | 4 track 2 channel stereo |
| TAPE | Phillips type cassette |
| HEADS | HD head for recording and playback x1 Erase head x1 |
| MOTOR | Electronically speed controlled DC motor x1 |
| WOW & FLUTTER | 0.05% WRMS (JIS), 0.12% (DIN) |
| FREQUENCY RESPONSE | |
| NORMAL | 30Hz to 15,000Hz ± 3 dB |
| CrO ₂ | 30Hz to 16,000Hz ± 3 dB |
| METAL | 30Hz to 17,000Hz ± 3 dB |
| S/N | 56dB Dolby NR switch ON: improves up to 5dB at 1kHz, 10dB above 5kHz |
| HARMONIC DISTORTION | Less than 0.7% |
| DIMENSIONS | 440(W) x 115(H) x 210(D) mm (17.3 x 4.5 x 8.3 inches) |
| WEIGHT | 2.7kg (6.0 lbs) |

* For improvement purposes, specifications and design are subject to change without notice.

* Noise Reduction manufactured under license from Dolby Laboratories Licensing corporation. "Dolby" and the double-D Symbol are trade marks of Dolby Laboratories Licensing Corporation.

II. DISMANTLING OF UNIT

In case of trouble, etc. necessitating dismantling, please dismantle in the order shown in the photographs. Reassemble in reverse order.



III. CONTROLS

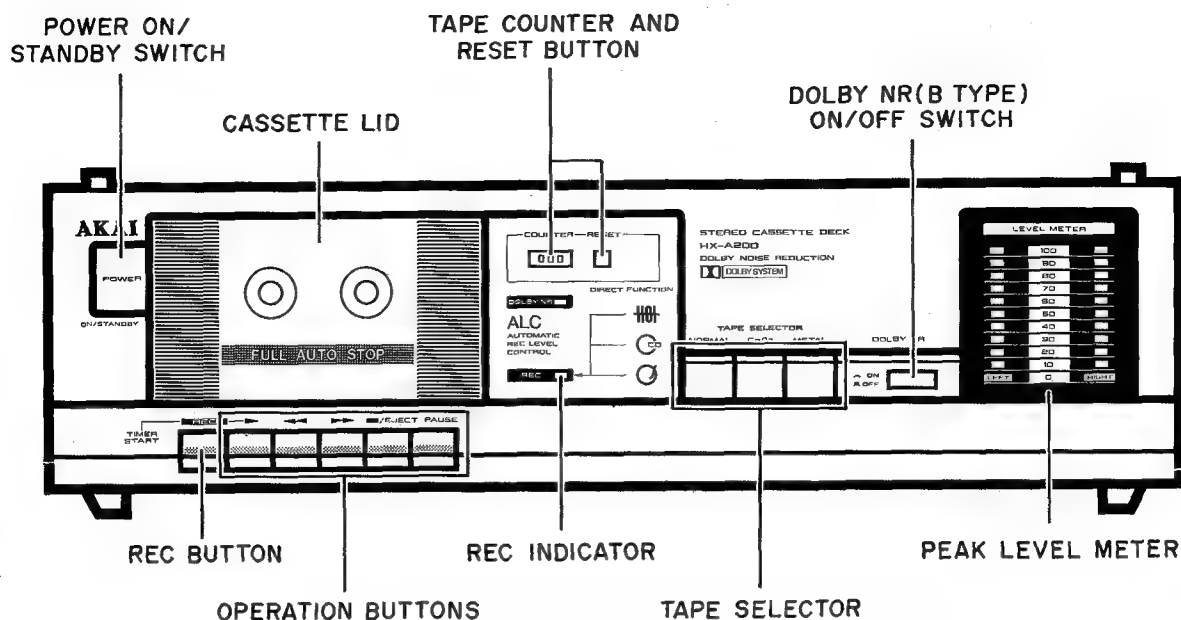


Fig. 3-1 Control

IV. PRINCIPAL PARTS LOCATION

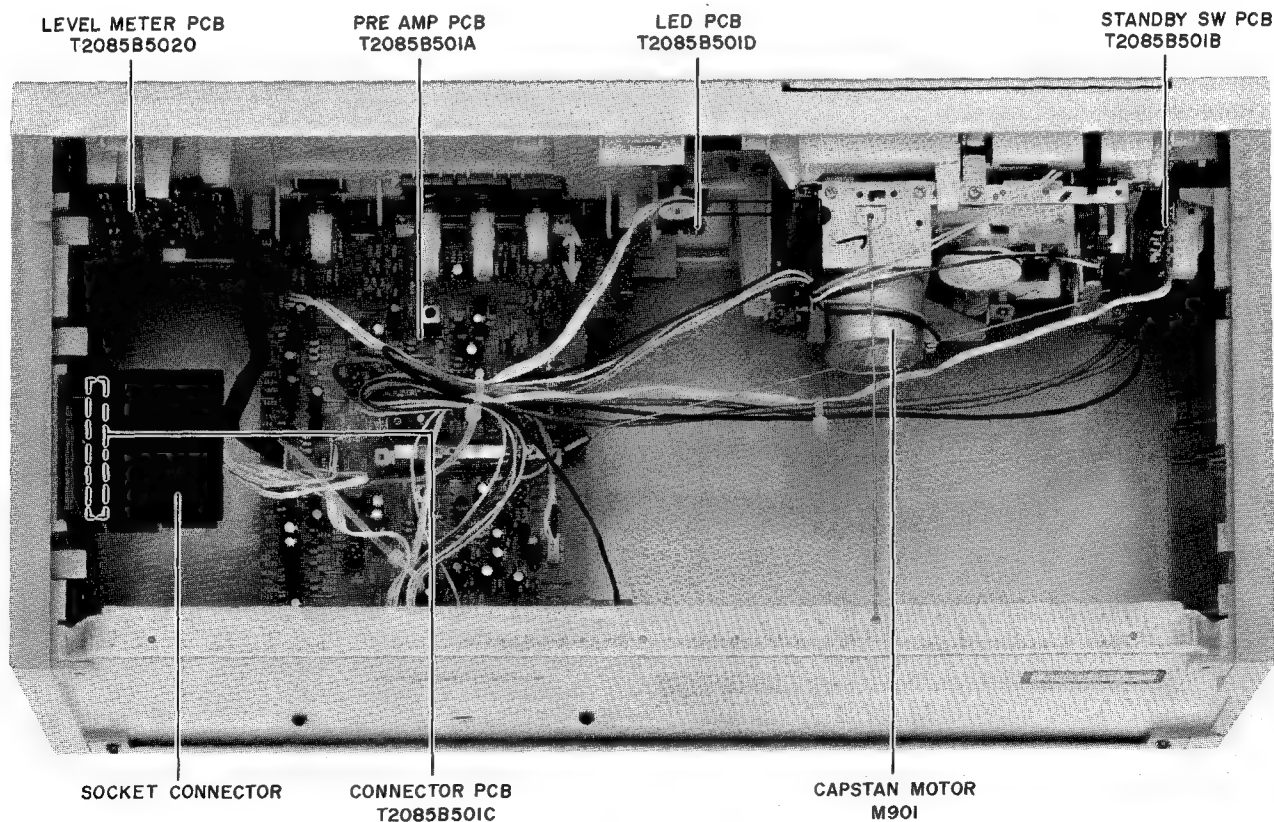


Fig. 4-1 Top View

V. MECHANICAL ADJUSTMENT

5-1. PINCH ROLLER PRESSURE MEASUREMENT

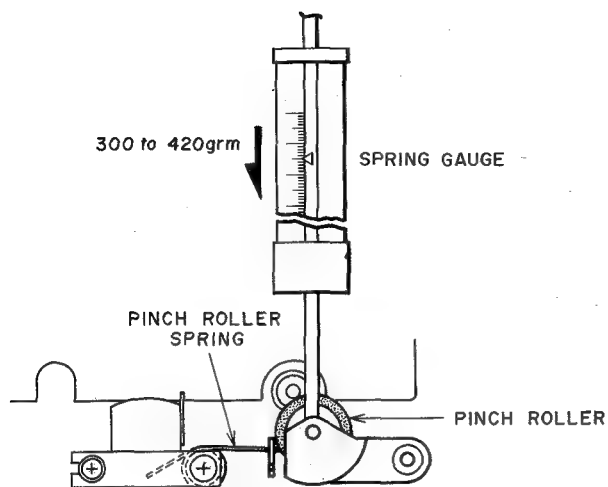


Fig. 5-1

Put in PLAY mode. Push pinch roller arm down with the spring gauge, push the pinch Roller 1 to 2 mm from the Capstan and release slowly.

Read the spring gauge at the moment the pinch roller touches the capstan and begins to rotate. Specified contact pressure measurement of 200 to 400 gm. If there is no measurement obtained, Adjust or Replace the pinch Roller spring.

5-2. WINDING TORQUE MEASUREMENT IN EACH MODE

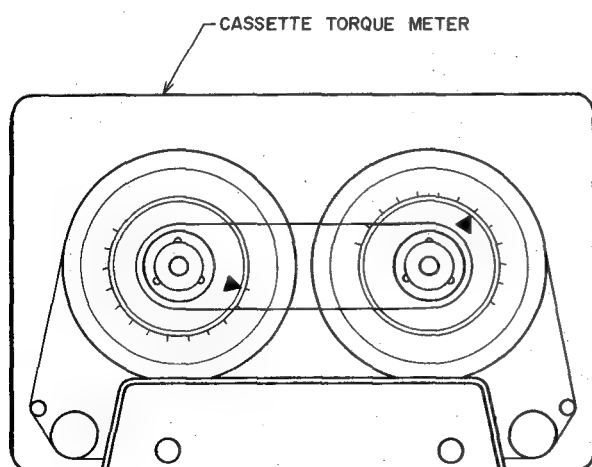


Fig. 5-2

Insert cassette torque meter (AJ-751179) and measure in each mode.

PLAY mode

Take up Torque: 35 to 75 grm-cm

Back tension torque: 1 to 6 grm-cm

FAST FORWARD, REWIND mode

Take up Torque: 80 to 140 grm-cm

5-3. TAPE SPEED ADJUSTMENT

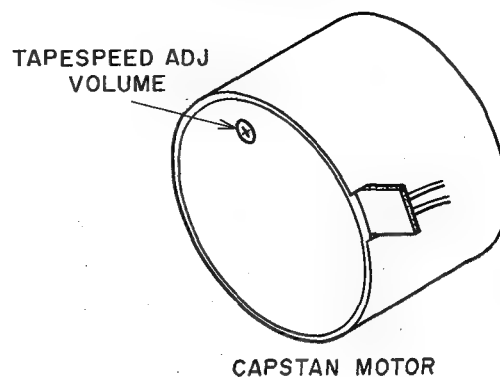


Fig. 5-3

Connect a frequency Counter to Line output terminals. Play Back a 3,150Hz Tape Speed Test Tape (AT-751263) and adjust a Tape Speed Adjustment Volume (see Fig. 5-3) to obtain a tape speed of $3,150 \pm 30$ Hz.

5-4. REC/PB HEAD AZIMUTH ADJUSTMENT

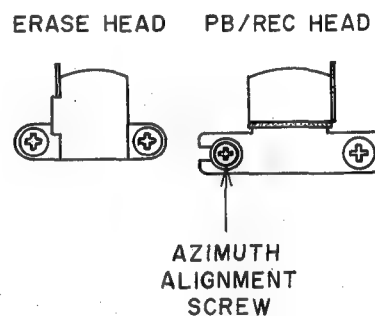


Fig. 5-4

Play back a 10kHz Azimuth Alignment tape (AT-750778) and adjust the Azimuth Alignment Screw, untill the output levels of both channels are maximum. After Adjustment, Paintlock the azimuth Alignment Screw.

VI. ELECTRICAL ADJUSTMENT

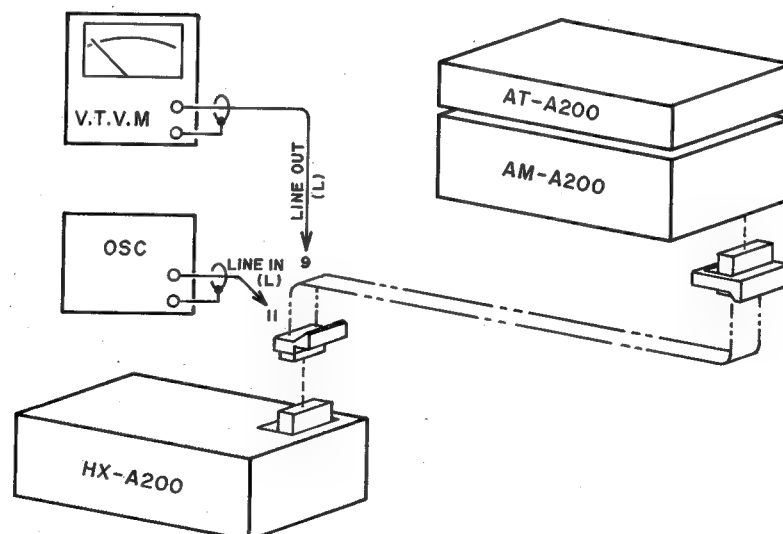
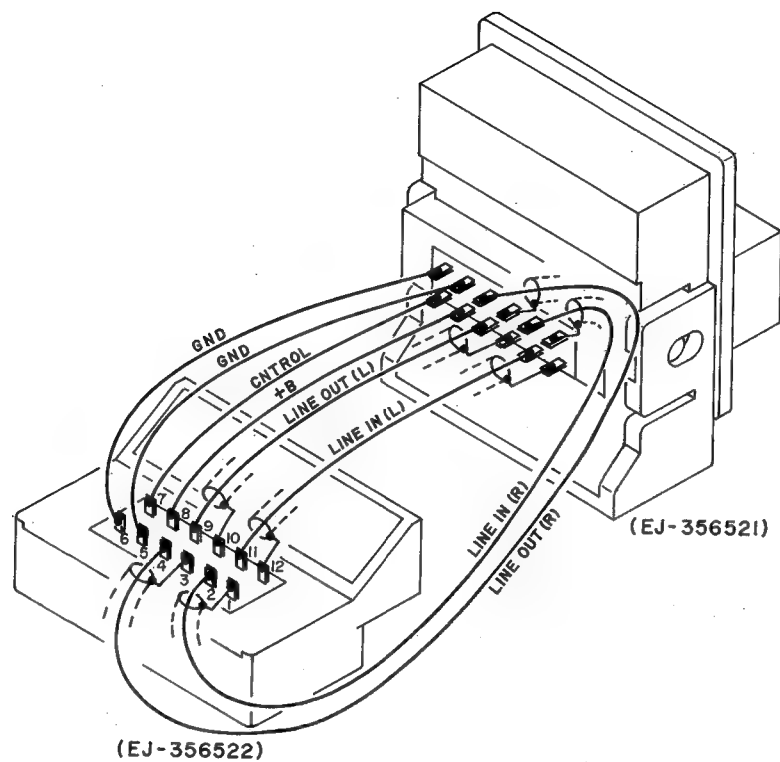


Fig. 6-1 Connection

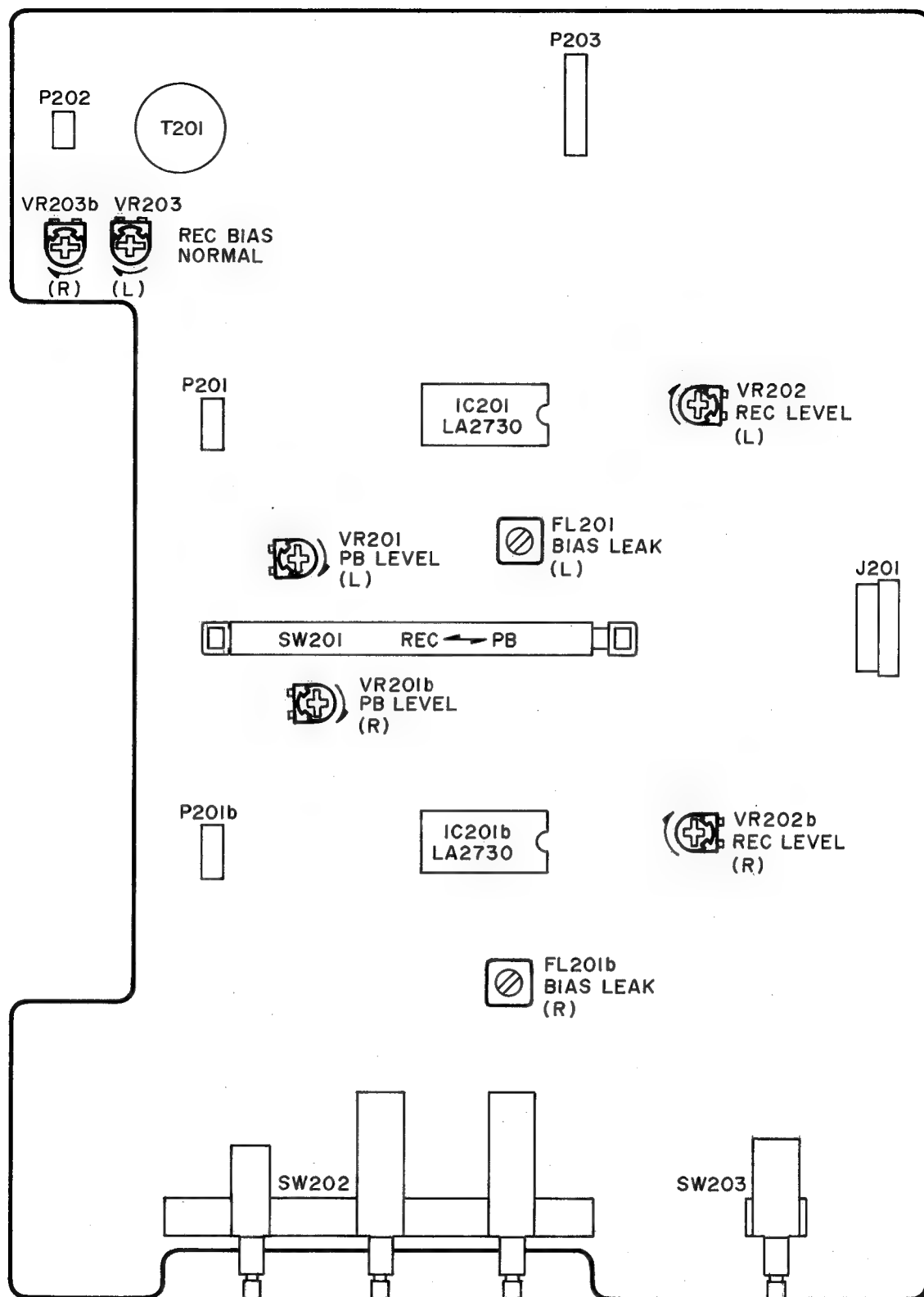


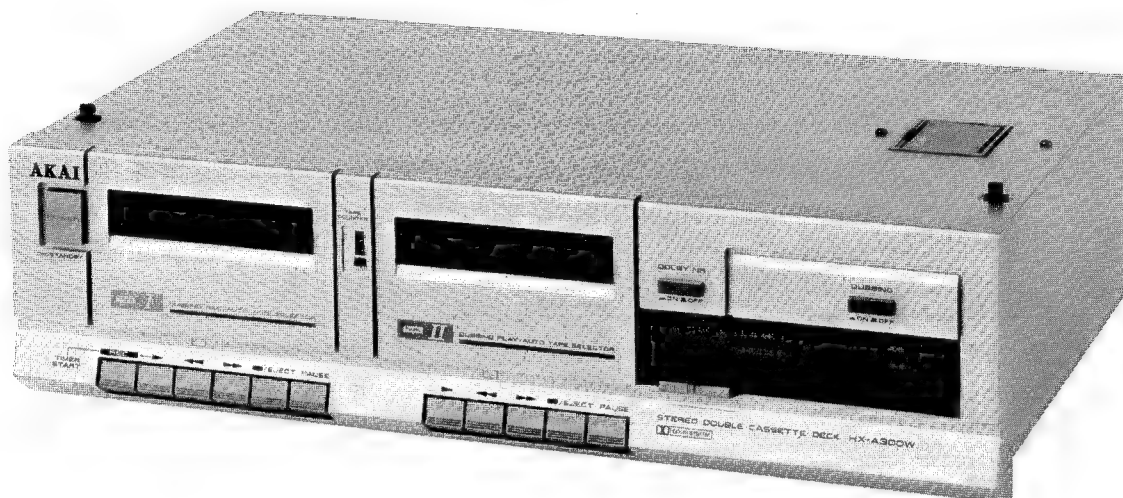
Fig. 6-2 Pre Amp PCB (Parts Side View)

| Step | Adjustment Item | Input Signal or Test Tape | Mode | Adjustment Parts | Result | Remarks |
|------|--|---|------------|------------------|-----------------------------|---------|
| 1 | PB LEVEL | 315Hz | PB | VR201 | -19.7±0.2dB | |
| 2 | NORMAL POSITION FREQUENCY RESPONSE | NORMAL Blank Tape 1kHz, 10kHz -39.7dBm | REC/ PB | VR203 | 1kHz, 10kHz -39.7±0.3dBm | |
| 3 | REC LEVEL | NORMAL Blank Tape 315Hz, -19.7dBm | REC/ PB | VR202 | -19.7±0.2dBm | |

NOTE: 1. All adjustments are without Dolby.
2. Use the following cassette measuring tapes:
NORMAL TAPE : Maxell UDI C-60
CrO₂ TAPE : TDK SA C-60
METAL TAPE : TDK MA C-60

VII. PC BOARD TITLES AND IDENTIFICATION NUMBERS

| PC BOARD TITLE | | PC BOARD NUMBER | REMARKS |
|----------------|----------|-----------------|---------|
| PRE AMP | PC BOARD | T2085B501A | |
| STANDBY SW | PC BOARD | T2085B501B | |
| CONNECTOR | PC BOARD | T2085B501C | |
| LED | PC BOARD | T2085B501D | |
| LEVEL METER | PC BOARD | T2085B5020 | |



SECTION 6

SERVICE MANUAL

MODEL HX-A300W

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| 3. REC/PB HEAD AZIMUTH ADJUSTMENT | 38 |
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| VII. PC BOARD TITLES AND IDENTIFICATION NUMBERS | 41 |

For basic adjustments, measuring methods, and operating principles, refer to GENERAL TECHNICAL MANUAL.

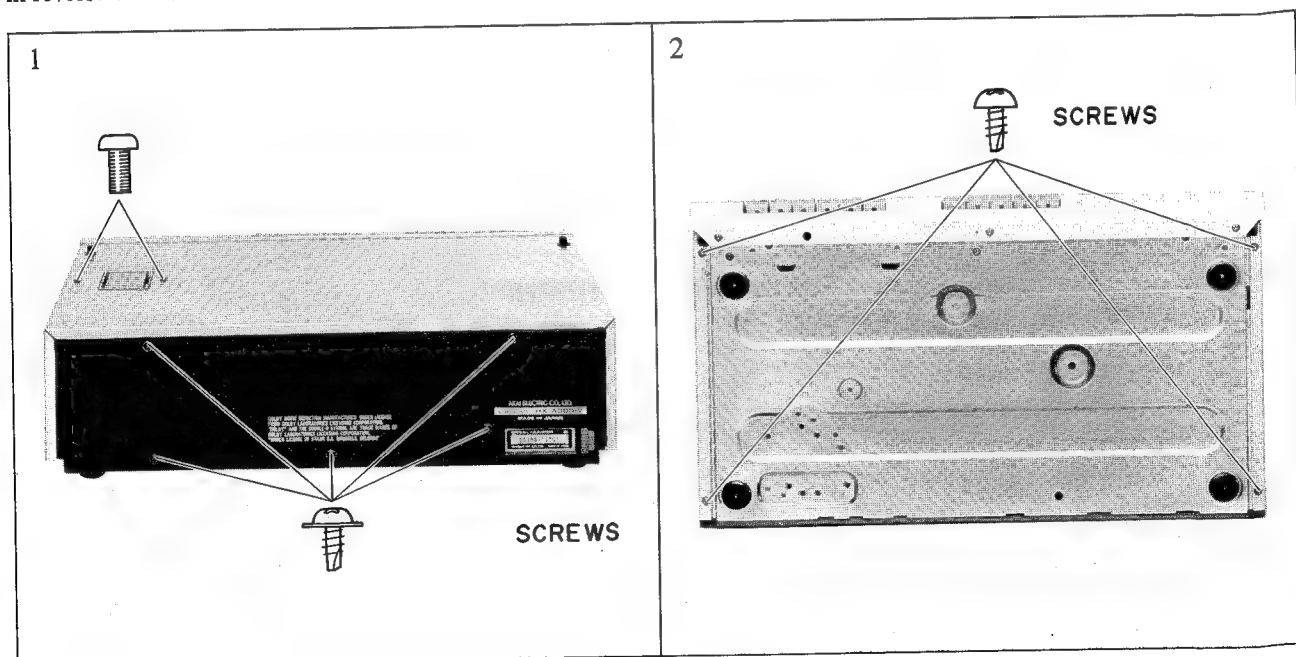
I. SPECIFICATIONS

| | |
|---------------------|---|
| TRACK SYSTEM | 4 track 2 channel stereo |
| TAPE | Phillips type cassette |
| HEADS | Tape I HD head for recording and playback x1 Erase head x1 Tape II HD head for playback |
| MOTORS | Tape I Electronically speed controlled DC motor x1 Tape II Electronically speed controlled DC motor x1 |
| WOW & FLUTTER | 0.05% WRMS (JIS), 0.12% (DIN) |
| FREQUENCY RESPONSE | Normal 30Hz to 15,000Hz ± 3 dB CrO ₂ 30Hz to 16,000Hz ± 3 dB |
| S/N | 56dB Dolby NR switch ON: Improves up to 5dB at 1kHz, 10dB above 5kHz |
| HARMONIC DISTORTION | Less than 0.7% |
| DIMENSIONS | 440(W) \times 122(H) \times 254(D) mm (17.3 \times 4.8 \times 10.0 inches) |
| WEIGHT | 3.1kg (6.8lbs) |

- * For improvement purposes, specifications and design are subject to change without notice.
- * Noise Reduction manufactured under license from Dolby Laboratories Licensing corporation. "Dolby" and the double-D Symbol are trade marks of Dolby Laboratories Licensing Corporation.

II. DISMANTLING OF UNIT

In case of trouble, etc. necessitating dismantling, please dismantle in the order shown in the photographs. Reassemble in reverse order.



III. CONTROLS

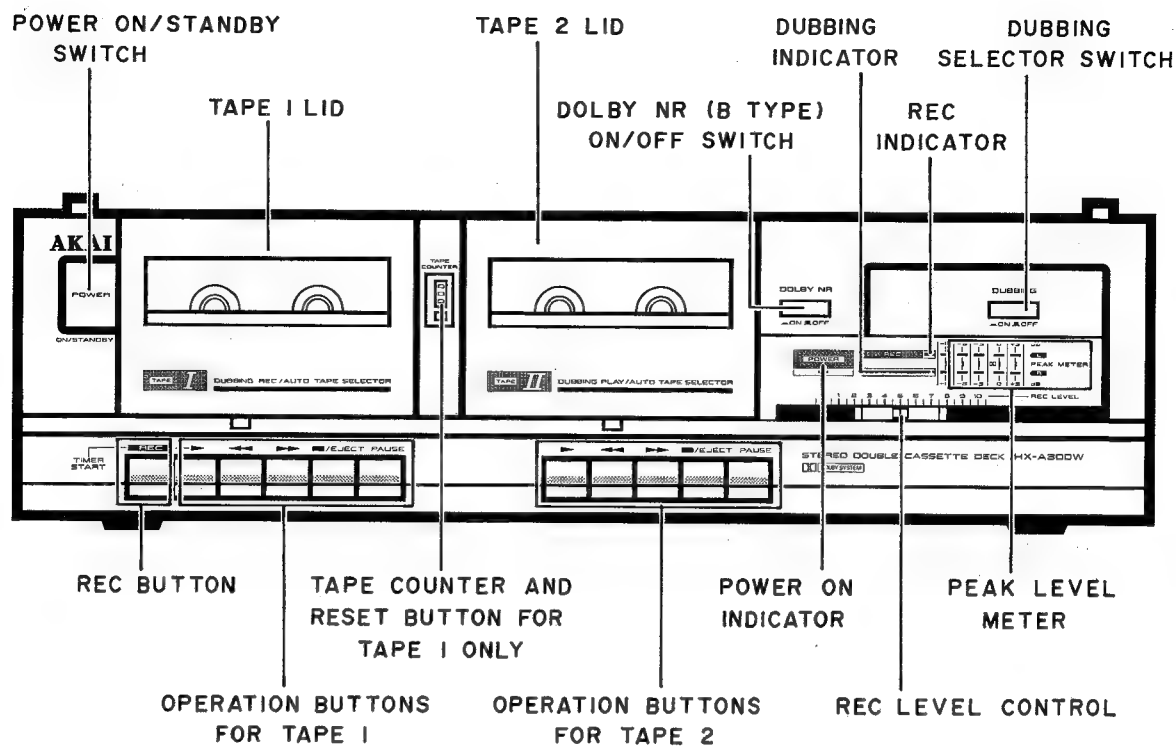


Fig. 3-1 Control

IV. PRINCIPAL PARTS LOCATION

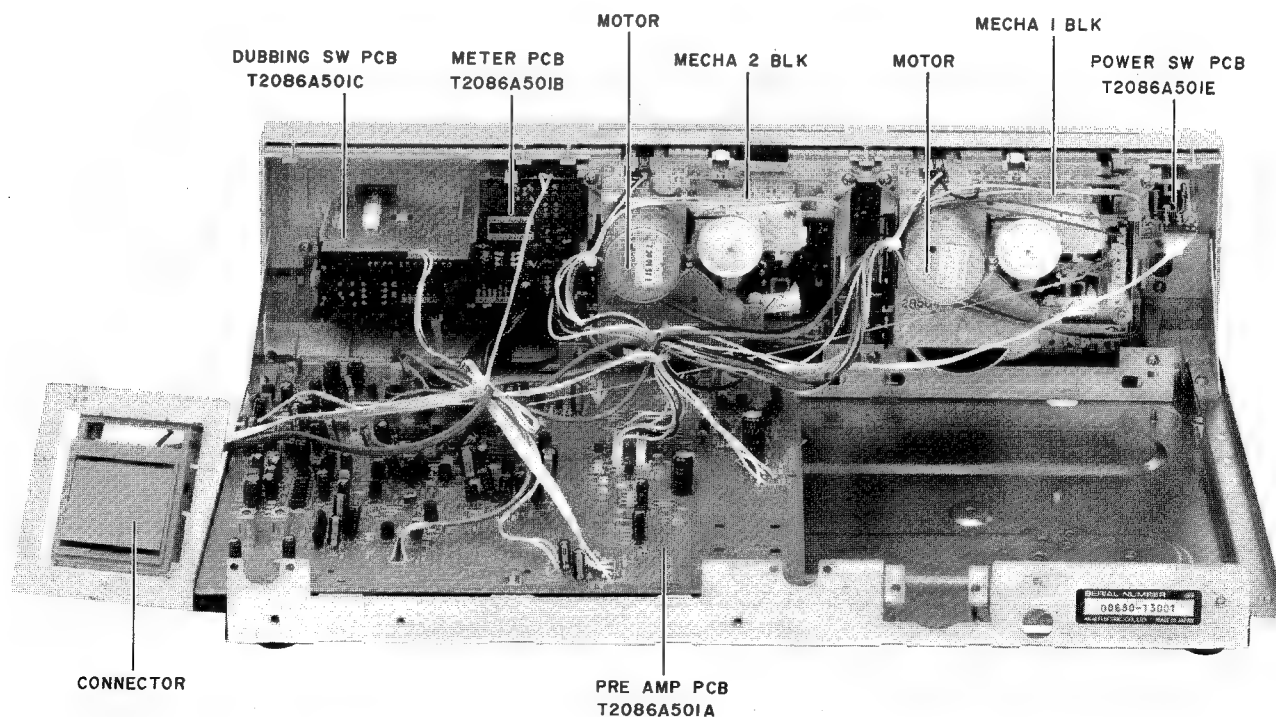


Fig. 4-1

V. MECHANICAL ADJUSTMENT

5-1. PINCH ROLLER PRESSURE MEASUREMENT

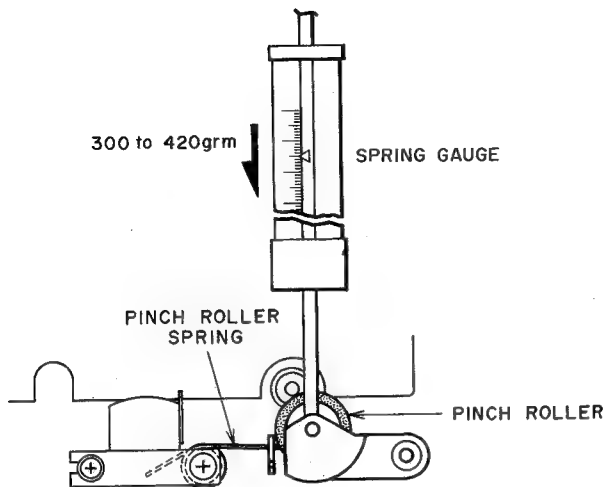


Fig. 5-1

Put in PLAY mode. Push pinch roller arm down with the spring gauge, push the pinch Roller 1 to 2 mm from the Capstan and release slowly. Read the spring gauge at the moment the pinch roller touches the capstan and begins to rotate. Specified contact pressure measurement of 300 to 550grm. If there is no measurement obtained, Adjust or Replace the pinch Roller spring.

5-2. WINDING TORQUE MEASUREMENT IN EACH MODE

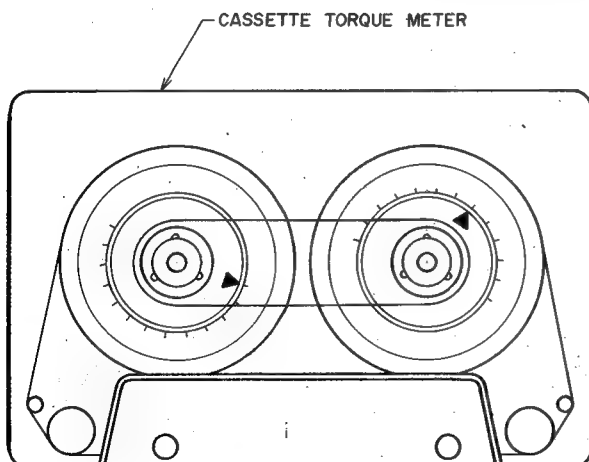


Fig. 5-2

Insert cassette torque meter (AJ-751179) and measure in each mode. For Fast Forward and Rewind, measure at the end of tape when the tape has stopped running.

PLAY Mode

Take up Torque: 35 to 75 grm-cm
Back tension torque: 1 to 6 grm-cm

FAST FORWARD, REWIND mode

Take up Torque: 70 to 160 grm-cm

5-3. REC/PB HEAD AZIMUTH ADJUSTMENT

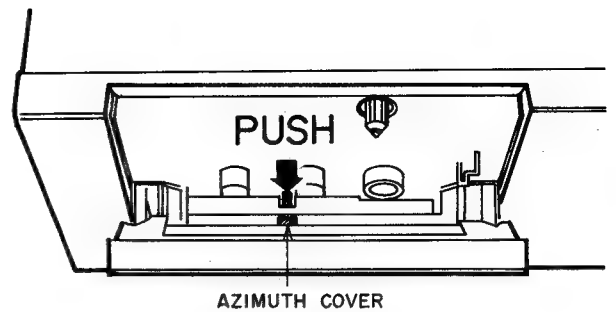


Fig. 5-3

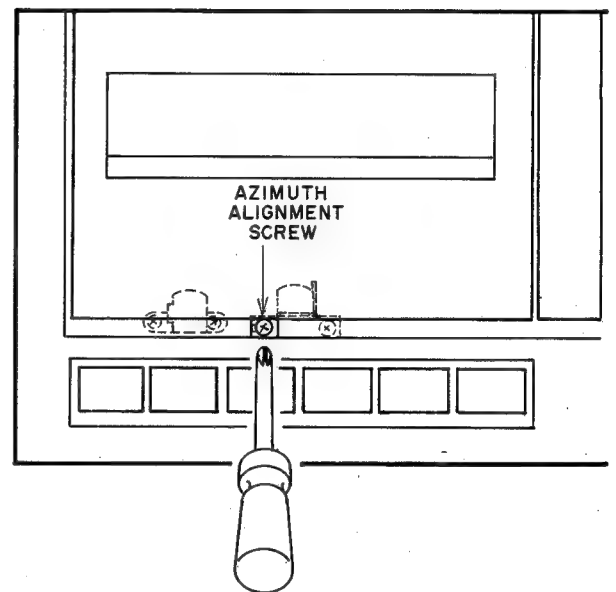


Fig. 5-4

Play Back a 10kHz Azimuth Alignment Tape (AT-750778) and Adjust the Azimuth Alignment Screw, until the output levels of both channels are maximum. After Adjustment, Paintlock the Azimuth Alignment Screw.

5-4. TAPE SPEED ADJUSTMENT

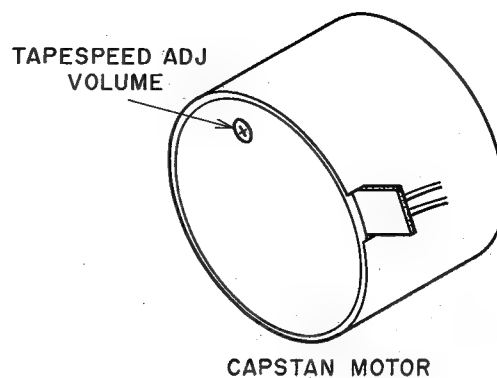
1. Connect a frequency counter to LINE OUT. (Refer to Fig. 4-2)

TAPE I Selection

2. Playback a 3150Hz pre-recorded Test Tape (AT-751263) and adjust a Tape Speed adjustment volume (See Fig. 5-4) to obtain a tape speed of $3150\text{Hz} \pm 30\text{Hz}$.

TAPE II Selection

3. Playback a 3150Hz pre-recorded Test Tape (AT-751263) and adjust a Tape Speed adjustment volume (See Fig. 5-4) to obtain a tape speed of $3150\text{Hz} \pm 30\text{Hz}$.
4. Confirmation that speed deviation toward TAPE I is within $\pm 20\text{Hz}$.



VI. ELECTRICAL ADJUSTMENT

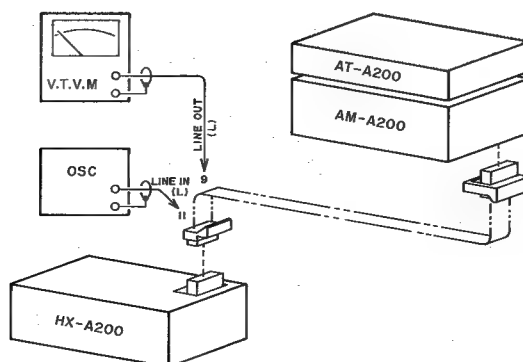
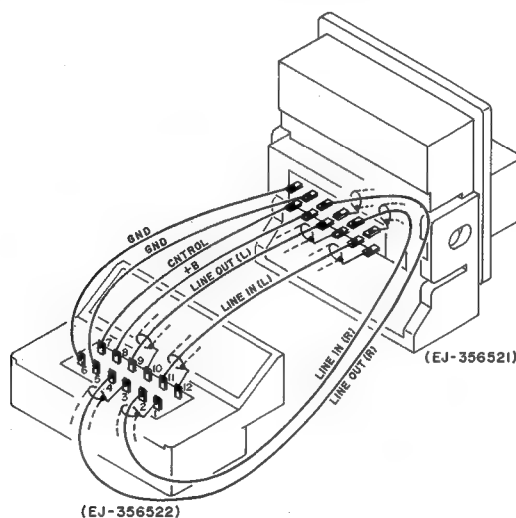


Fig. 6-1 Connection

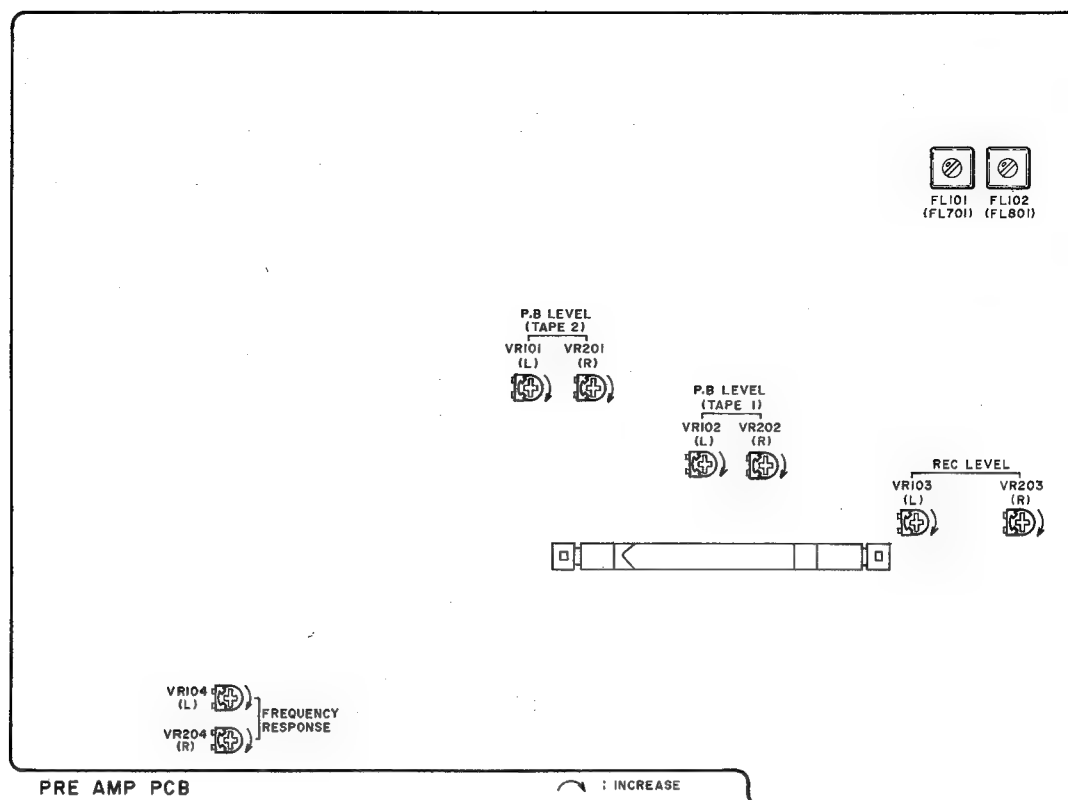


Fig. 6-2

MODEL HX-A300W

| Step | Adjustment Item | Test Tape & Supply Signal | Mode | Adjustment Part | Result | Remarks |
|------|---------------------------------------|---|-------------|----------------------------|--|---------|
| 1 | P.B LEVEL (TAPE I) | 315Hz | P.B | VR102 (Lch) VR202 (Rch) | $-19.7 \pm 0.5 \text{ dBm}$ | |
| 2 | P.B LEVEL (TAPE II) | 315Hz | P.B | VR101 (Lch) VR201 (Rch) | $-19.7 \pm 0.5 \text{ dBm}$ | |
| 3 | NORMAL POSITION FREQUENCY RESPONSE | NORMAL BLANK TAPE 1kHz, 10kHz -40.0 dBm | REC/ P.B | VR104 (Lch) VR204 (Rch) | 1kHz, 10kHz $-40.0 \pm 0.5 \text{ dBm}$ | |
| 4 | REC LEVEL | NORMAL BLANK TAPE 315Hz -19.7 dBm | REC/ P.B | VR103 (Lch) VR203 (Rch) | $-19.7 \pm 0.5 \text{ dBm}$ | |

NOTE: 1. All adjustment are without Dolby.
 2. Use the following cassette measuring tapes:
 NORMAL TAPE : Maxell UDI C-60
 CrO₂ TAPE : TDK SA C-60
 METAL TAPE : TDK MA C-60

VII. P.C BOARD TITLE AND IDENTIFICATION NUMBERS

| PC BOARD TITLE | | PC BOARD NUMBER | REMARKS |
|----------------|----------|-----------------|---------|
| PRE AMP | PC BOARD | T2086A501A | |
| METER | PC BOARD | T2086A501B | |
| DUBBING SW | PC BOARD | T2086A501C | |
| CONNECTOR | PC BOARD | T2086A501D | |
| POWER SW | PC BOARD | T2086A501E | |

SECTION 7

PARTS LIST

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Resistor and Capacitor which is not listed in this parts list, please refer to COMMON LIST FOR SERVICE PARTS.

ATTENTION

1. When placing an order for parts, be sure to list the parts no., model no., and description of each part. If any of this information is omitted, there are instances in which parts cannot be shipped or the wrong parts will be delivered.
2. Please be careful not to make a mistake in the parts no. If the parts no. is in error, a part different from the one ordered may be delivered.
3. Because part numbers and part definitions and supply in the Preliminary Parts List may have been the subject of changes, please use this parts list for all future reference.

HOW TO USE THIS PARTS LIST

1. This Parts List shows those parts which are considered necessary for repairs. Other parts, such as resistors and capacitors, are shown in the "Common List for Service Parts" from which these parts should be selected and parts.
2. The Recommended Spare Parts List shows those parts in the Parts List which are considered particularly important for service.
3. Parts not shown in the Parts List and "Common List for Service Parts" will not in principle be supplied.
4. How to read the parts list

a) Mechanism Block

b) P.C Board Block

2. HEAD BASE BLOCK

| REF. NO. | PART NO. | DESCRIPTION |
|----------|---------------|-------------------------|
| 2-1x | BH-T2023A320A | HEAD BASE BLOCK GX-F66R |
| 2-2 | HP-H2206A010A | HEAD R/P PR4-8FU C |
| 2-3 | ZS-477876 | PAN20x03STL CMT |
| 2-4 | ZS-536488 | BID20x08STL CMT |
| 2-5 | ZG-402895 | CS ANGLE ADJUST SPRING |

SP (Service Parts) Classification

A small "x" indicates the inability to show that particular part in the Photo or Illustration.

This number corresponds with the individual parts index number in that figure

This number corresponds with the Figure Number

6. SYS. CON. P C BOARD BLOCK

| REF. NO. | PART NO. | DESCRIPTION |
|-----------|---------------|---------------------------------|
| 6-1 | BA-T2034A070A | PC SYS CON BLK GX-F44R |
| 6-IC1 | EI-324536 | IC HD14049BP |
| 6-IC2 | EI-336801 | IC MB8841-564M |
| 6-IC3 | EI-331661 | IC SN7405N |
| 6-IC4 | EI-336725 | IC M54527P |
| 6-TR1to4 | ET-200985 | TR 2SC2603 F,G |
| 6-TR5to28 | ET-554657 | TR 2SA733A P,Q |
| 6-D1 | ED-318292 | D SILICON H 1S2473T-77 T26 |
| 6-D2to4 | ED-308952 | D GERMA V 1K34A-LR F07 |
| 6-D5to10 | ED-318292 | D SILICON H 1S2473T-77 T26 |
| 6-X1 | EI-318384 | OSC X'TAL NC-18C 3.579545MHZ |

SP (Service Parts) Classification

These reference symbols correspond with component symbols in the Schematic Diagrams.

5. The kind of part and its installation position can both be determined by the Part Number. To determine where a part number is listed, utilize the Parts Index at the end of the Parts List. It is necessary first of all to find the Part Number. This can be accomplished by using the Reference Number listed at the right of the part number in the Parts Index.

WARNING

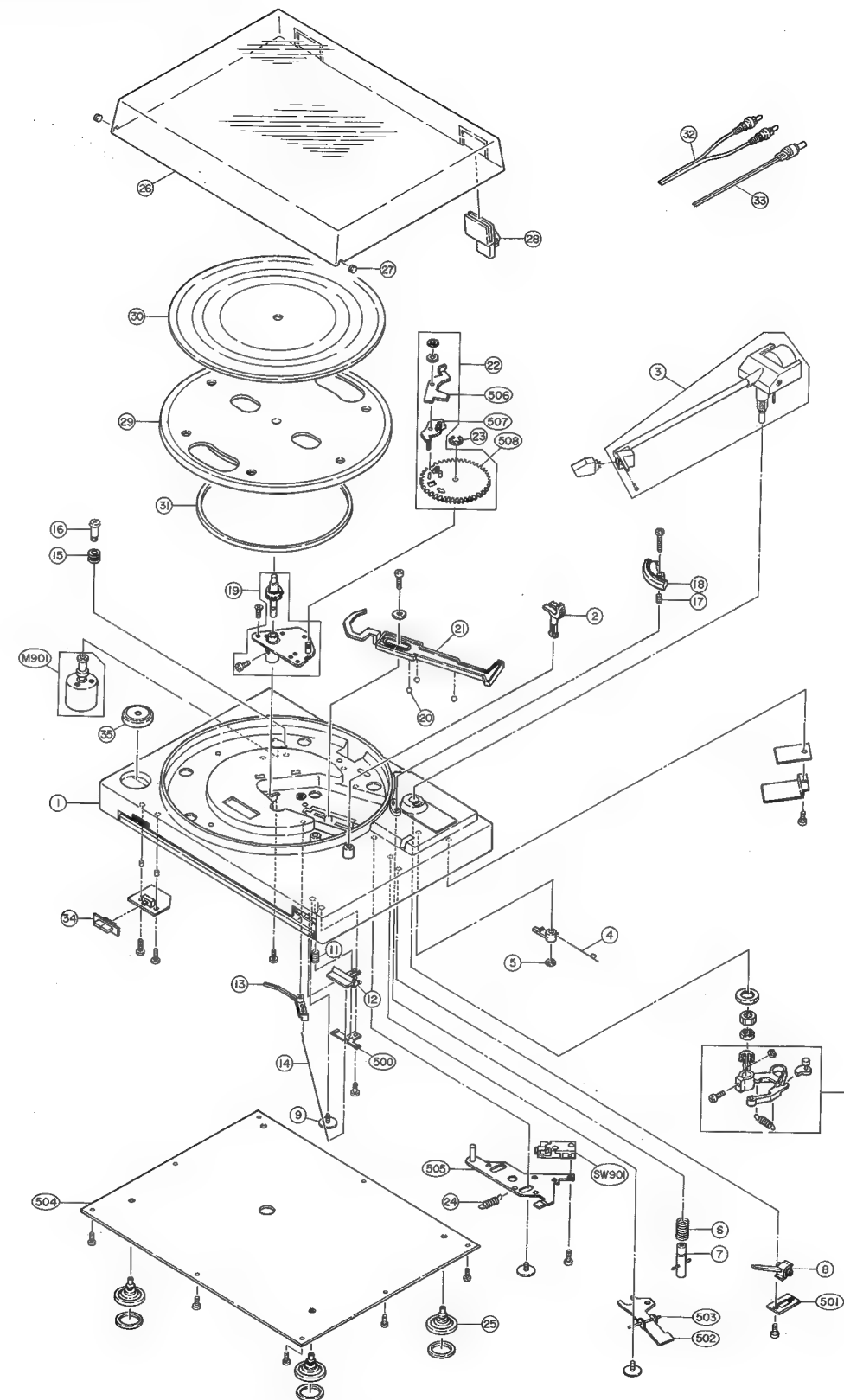
⚠ INDICATES SAFETY CRITICAL COMPONENTS. FOR CONTINUED SAFETY, REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURE'S RECOMMENDED PARTS

AVERTISSEMENT

⚠ IL INDIQUE LES COMPOSANTS CRITIQUES DE SÉCURITÉ. POUR MAINTENIR LE DEGRÉ DE SÉCURITÉ DE L'APPAREIL, NE REMPLACER QUE DES PIÈCES RECOMMANDÉES PAR LE FABRICANT

I. MODEL AP-100

FINAL ASSEMBLY BLOCK



NOTE: Parts listed in 1 to SW901 on the exploded view and list are normally stocked for replacement purpose. The remaining parts shown in this manual are not normally stocked, because they are seldom required for routine service.

Optional Accessory
Cartridge PC-35

1. MOTOR PC BOARD

| REF. NO. | PART NO. | DESCRIPTION |
|-----------|-----------|---------------------|
| 1-IC1 | EI-357879 | IC LA5512 |
| 1-SW1 | ES-358768 | SW SLIDE SSV322-059 |
| 1-VR1,VR2 | EV-315416 | R S-FIX H D8 3P 103 |

SYMBOL FOR DESTINATION

[A]: AAL (USA)
[B]: UK (England)

2. FINAL ASSEMBLY BLOCK

| REF. NO. | PART NO. | DESCRIPTION |
|----------|---------------|-------------------------------|
| 2-1 | BC-358036A | CABINET AP-A100 |
| 2-1B | BC-358036B | CABINET AP-A100-B |
| 2-2 | TP-358836 | CLAMPER ARM |
| 2-3 | TP-351625 | TONE ARM ARM-A1 |
| 2-4 | ZG-353257 | SP TORSION CANCELER |
| 2-5 | ZW-340648 | RING CS 190STL PKR |
| 2-6 | ZG-325402 | SP ELEVATION |
| 2-7 | TP-345341 | SHAFT ELEVATION |
| 2-8 | SK-345362A | KNOB ELEVATION |
| 2-8B | SK-345362E | KNOB ELEVATION-B |
| 2-9 | ZS-358930 | SCREW B Y 3824 |
| 2-10 | TP-P1034A040A | PU PLATE BLK AP-B1 |
| 2-11 | ZG-313181 | SP C-04.5/0.35-16.0 C-028 |
| 2-12 | SK-351739 | KNOB CUT |
| 2-13 | ML-358006 | LEVER MANUAL |
| 2-14 | MZ-358034 | WIRE CUT |
| 2-15 | MB-345351B | CUSHION RUBBER (2) |
| 2-16 | ZS-350767 | SCREW |
| 2-17 | ZG-332548 | SP PUSH (A) |
| 2-18 | TP-B332568X2 | ARM ELEVATION PART |
| 2-19 | TP-B345367 | CHASSIS SPINDLE PART |
| 2-20 | MV-269965 | BALL 400STL |
| 2-21 | ML-345348 | LEVER AUTO |
| 2-22 | TP-P1034A080A | GEAR MAIN BLK AP-B1 |
| 2-23 | ZW-270101 | RING E 300SUP CMT |
| 2-24 | ZG-313073 | SP T1-06.3/0.50-28.0 T1-18510 |
| 2-25 | SA-332577C | INSULATOR (C) |
| 2-26 | BC-B332582 | DUST COVER PART |
| 2-27 | TP-301300 | COVER CUSHION |
| 2-28 | TP-336361 | HINGE AUTO OH-5 |
| 2-28B | TP-336362 | HINGE AUTO OH-5-BL |
| 2-29 | TP-348321 | PLATTER |
| 2-30A | TP-348266A | TABLE SHEET A [U,B] |
| 2-30B | TP-348266B | TABLE SHEET B [A] |
| 2-31 | MB-355119 | BELT EP |
| 2-32A | EW-358749 | CORD 2P AUDIO CORD [U,B] |
| 2-32B | EW-358750 | CORD 2P AUDIO UL [A] |
| 2-33 | EW-358754 | CORD 2CORES DC CORD UL |
| 2-34 | SK-351613B | KNOB SLIDE-B |
| 2-35 | AX-332567C | 45 ADAPTER-S |
| 2-35B | AX-332567D | 45 ADAPTOR-B |
| 2-M901 | BM-354988 | MOTOR BFD2R16 |
| 2-SW901 | ES-316432 | SW MICRO K2(P) |

SYMBOL FOR COLOR VARIATION

NON : STANDARD-COLOR
B OR BL : BLACK

II. MODEL AP- A200

RECOMMENDED SPARE PARTS

Because, if the parts listed below are on hand, almost any repair can be accomplished, we suggest that you stock these Recommended Spare Parts Items.

| REF. NO. | PART NO. | DESCRIPTION |
|----------|---------------|------------------------|
| 1 N | BM-360085 | Δ MOTOR SS09DA |
| 2 | ED-349656 | D LED AY5505S |
| 3 | ED-337391 | D LED GL5NG6 GREEN |
| 4 | ED-557447 | D SILICON H 1S1588 |
| 5 | ED-708712 | D SILICON 1S1555 |
| 6 | EL-780137 | IC VC1031 |
| 7 | ES-325488 | SW MICRO K1(P) |
| 8 | ES-337843 | SW PUSH ESB-64501 02-2 |
| 9 | ET-308867 | TR 2SA1015 O,Y,GR |
| 10 | ET-742510 | TR 2SA950 O,Y |
| 11 | ET-330225 | TR 2SC1815 BL |
| 12 | ET-328844 | TR 2SC3120 O,Y |
| 13 | EV-780138 | R S-FIX 103 |
| 14 | TP-P1034A080A | MAIN GEAR BLK AP-B1 |

“NOTE” N: New Parts
SYMBOL FOR DESTINATION
[A]: AAL (USA)
[B]: UK (England)
[U]: U/T (Universal Area)

1. MOTOR PC BOARD

| REF. NO. | PART NO. | DESCRIPTION |
|----------|-----------|--------------------------|
| 1-IC1 | EL-780137 | IC VC1031 |
| 1-Q1,Q2 | ET-328844 | TR 2SC2110 O,Y |
| 1-Q3,Q4 | ET-742510 | TR 2SA950 O,Y |
| 1-Q5,Q6 | ET-308867 | TR 2SA1015 O,Y,GR |
| 1-Q7,Q8 | ET-330225 | TR 2SC1815 BL |
| 1-Q9 | ET-308867 | TR 2SA1015 O,Y,GR |
| 1-Q10 | ET-330225 | TR 2SC1815 BL |
| 1-Q11 | ET-742510 | TR 2SA950 O,Y |
| 1-D1 | ED-708712 | D SILICON 1S1555 |
| 1-VR1 | EV-780138 | R S-FIX 103 |
| 1-R1 | ER-353877 | Δ R OMF H S15 FS 1W 1R0J |

2. SPEED SELECTOR PC BOARD

| REF. NO. | PART NO. | DESCRIPTION |
|----------|-----------|------------------------|
| 2-D1,D2 | ED-557447 | D SILICON H 1S1588 |
| 2-SW1 | ES-337843 | SW PUSH ESB-64501 02-2 |

3. LED PC BOARD

| REF. NO. | PART NO. | DESCRIPTION |
|----------|-----------|--------------------|
| 3-D1 | ED-337391 | D LED GL5NG6 GREEN |
| 3-D2 | ED-349656 | D LED AY5505S |

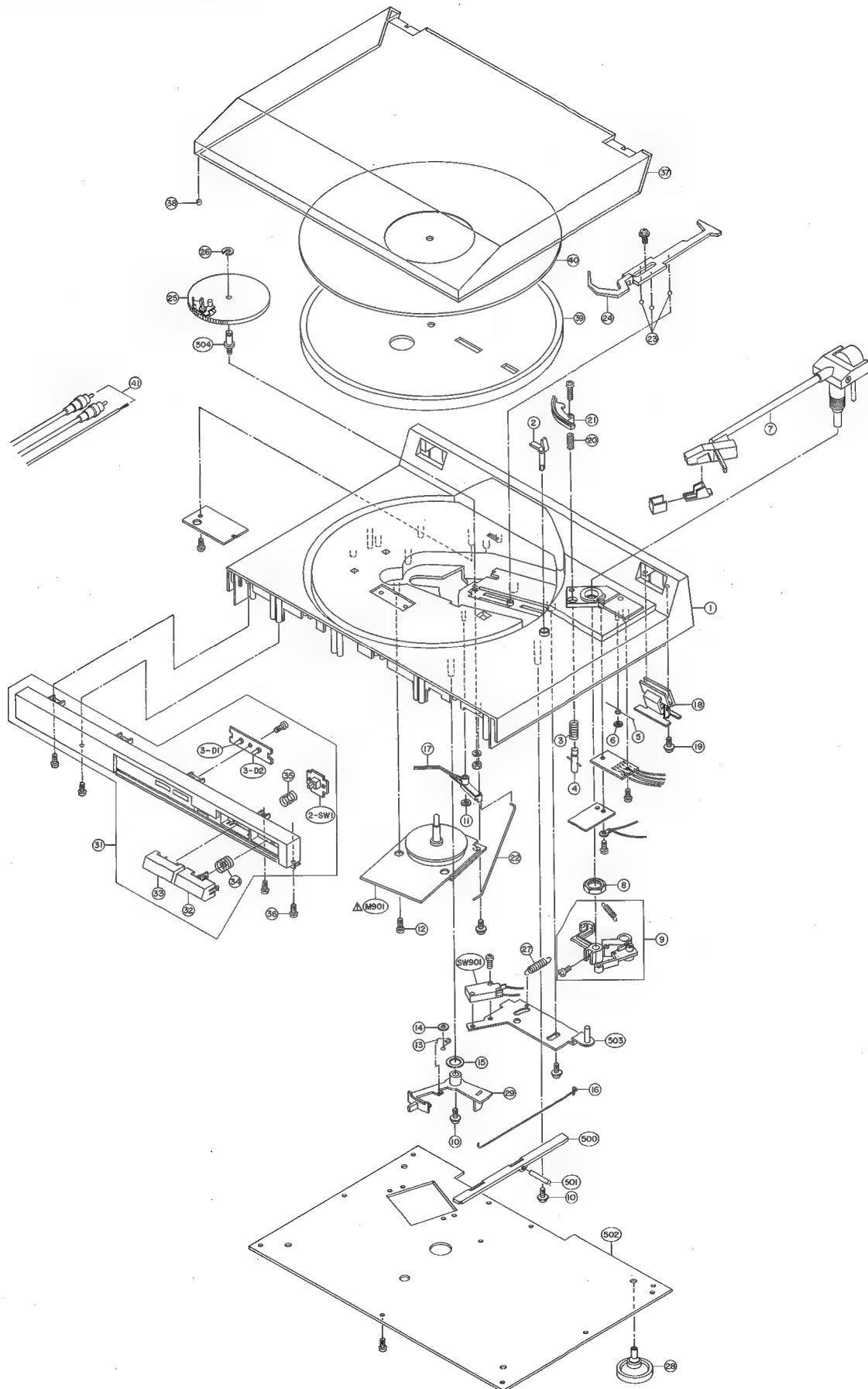
4. FINAL ASSEMBLY BLOCK

| REF. NO. | PART NO. | DESCRIPTION |
|----------|---------------|-------------------------------------|
| 4-1 | BC-353231D | CABINET (2) |
| 4-1B | BC-353231F | CABINET (2)-B |
| 4-2 | TP-358836 | C LAMPER ARM |
| 4-3 | ZG-358951 | SP ELEVATION |
| 4-4 | MS-353238 | SHAFT ELEVATION |
| 4-5 | ZG-353257 | SP TORSION CANCELER |
| 4-6 | ZW-340648 | RING CS 190STL PKR |
| 4-7 | TP-353252 | TONE ARM ARM-A2 |
| 4-8 | ZW-325521 | N120×170×30STL CMT P100 |
| 4-9 | TP-P1037A040A | LEVER PU PLATE BLK AP-A2 |
| 4-10 | ZS-358930 | SCREW B Y 3824 |
| 4-11 | ZW-340648 | RING CS 190STL PKR |
| 4-12 | ZS-310984 | PT BR30×08STL CMT |
| 4-13 | ZG-358000 | SP TORSION KNOB |
| 4-14 | ZW-331536 | PW21×050×013PSL |
| 4-15 | ZW-382083 | WASHER (NYLON) D6.1×13×1T |
| 4-16 | TP-358003 | WIRE ELEVATION |
| 4-17 | ML-358006 | LEVER MANUAL |
| 4-18 | TP-353712 | HINGE ASSY AP-A2 |
| 4-19 | ZS-349118 | S SCREW W/FRANGE |
| 4-20 | ZG-332548 | SP PUSH (A) |
| 4-21 | TP-B332568X2 | ARM ELEVATION PART |
| 4-22 | TP-360072 | LEVER REJECT (B) |
| 4-23 | MV-269965 | BALL 400STL |
| 4-24 | ML-345348 | LEVER AUTO |
| 4-25 | TP-P1034A080A | MAIN GEAR BLK AP-B1 |
| 4-26 | ZW-290283 | RING U 285SUP CMT |
| 4-27 | ZG-313073 | SP T1-06.3/0.50-28.0 T1-185 |
| 4-28 | SA-332577 | INSULATOR |
| 4-29 | TP-358012A | ANGLE LIFTER |
| 4-29B | TP-358012B | ANGLE LIFTER-B |
| 4-30xA | AX-332567C | 45 ADAPTER-S |
| 4-30xB | AX-332567D | 45 ADAPTOR-B |
| 4-31 | BD-P1047A020A | PANEL FRONT BLK AP-A200-C |
| 4-31B | BD-P1047A020B | PANEL FRONT BLK AP-A200-CB |
| 4-32 | SK-358010A | KNOB CUT |
| 4-32B | SK-358010B | KNOB CUT-B |
| 4-33 | SK-358011A | KNOB SPEED |
| 4-33B | SK-358011B | KNOB SPEED-B |
| 4-34 | ZG-358952 | SP KNOB (B) |
| 4-35 | SP-359109 | SP KNOB (C) |
| 4-36 | ZS-332009 | PT BR30×06STL CMT [PANEL FRONT FIX] |
| 4-37 | BC-B353247 | DUST COVER PART |
| 4-38 | MB-343057 | COVER CUSHION |
| 4-39 | TP-B358014 | PLATTER PART |
| 4-40A | TP-348266B | TABLE SHEET B [A] |
| 4-40B | TP-348266A | TABLE SHEET A [U,B] |
| 4-41 | EW-358754 | CORD 2CORES DC CORD UL |
| 4-42A | EW-358750 | CORD 2P AUDIO UL [A] |
| 4-42B | EW-358749 | CORD 2P AUDIO CORD [U,B] |
| 4-M901 | BM-360085 | Δ MOTOR SS09DA |
| 4-SW901 | ES-325488 | SW MICRO K1(P) |

NOTE: Parts listed in 1 to SW901 on the exploded view and list are normally stocked for replacement purpose. The remaining parts shown in this manual are not normally stocked, because they are seldom required for routine service.

Optional Accessory
Cartridge PC-35

FINAL ASSEMBLY BLOCK



III. MODEL AT-A200/L

RECOMMENDED SPARE PARTS

Because, if the parts listed below are on hand, almost any repair can be accomplished, we suggest that you stock these Recommended Spare Parts Items.

| REF. NO. | PART NO. | DESCRIPTION |
|----------|-----------|----------------------------------|
| 1 N | EC-359065 | CS-FIX H CTC-6U-020 4.3-20 |
| 2 | ED-321269 | D LED GL5PR6 RED |
| 3 | ED-301911 | D SILICON H DS448 |
| 4 | ED-344280 | D SILICON H GMA-01-FY2 F05 |
| 5 | ED-349460 | D VARACTER SVC321 A,B,C,D DOUBLE |
| 6 | ED-349448 | D VARACTOR 1SV147 |
| 7 | ED-306316 | D ZENER H HZ5 C2 |
| 8 | ED-337265 | D ZENER H HZ6 C2 |
| 9 | EH-336804 | FILTER CE S FE10.7MA8 10.7MHZ |
| 10 | EH-355568 | FILTER CE S FE 10.7MS2GY-A |
| 11 N | EH-355382 | FILTER LC BP 79-5151-11 [V] |
| 12 N | EI-359048 | IC C1005-736 |
| 13 | EI-354951 | IC LM7000 |
| 14 N | EI-359060 | IC HA12430 |
| 15 N | EI-359061 | IC LA3361 |
| 16 | EI-348409 | OSC CE CSB400P 0.4MHZ |
| 17 | EI-344422 | OSC X'TAL HC-18/U 7.200000MHZ |
| 18 | EM-353670 | IND FL 8-BT-29ZK CHARACTER |
| 19 | EO-337598 | COIL VARI 2 25A-1353-01 |
| 20 | EO-337599 | COIL VARI 2 25A-1354-03 [L] |
| 21 N | ES-360115 | SW SLIDE 00120262 01-02S [U,Y1] |
| 22 | ES-344445 | SW TACT EVQ-QHR12B |
| 23 | ES-349367 | SW TACT SKHHAB044A |
| 24 N | ES-359172 | SW TACT SKHHAF |
| 25 | ET-351853 | TR FET 2SK161 Y |
| 26 | ET-352408 | TR FET 2SK192A GR [L] |
| 27 | ET-337759 | TR FET 2SK246 GR |
| 28 | ET-353899 | TR 2SA1317 S,T,U |
| 29 | ET-338410 | TR 2SC2878 A,B [L] |
| 30 | ET-336869 | TR 2SC2999 C,D |
| 31 | ET-353366 | TR 2SC3112 A,B |
| 32 | ET-353898 | TR 2SC3330 |
| 33 | ET-349081 | TR 2SC3383 S,T |
| 34 | ET-328265 | TR 2SC930 F |
| 35 | EV-356579 | R S-FIX H H0615C 3P 102 |
| 36 | EV-356577 | R S-FIX H H0615C 3P 103 |

"NOTE" N: New Parts

SYMBOL FOR DESTINATION

- [A]: AAL (USA)
- [B]: UK (England)
- [C]: CSA (Canada)
- [E]: CEE (Europe)
- [S]: SAA (Australia)
- [U]: U/T (Universal Area)
- [V]: VDE (West Germany)

1. PC BOARD BLOCK

| REF. NO. | PART NO. | DESCRIPTION |
|----------|---------------|--------------------------------------|
| 1-1A | BA-A3052A030A | PC TUNER BLK AT-A200(U) |
| 1-1B | BA-A3052A030B | PC TUNER BLK AT-A200(C) |
| 1-1C | BA-A3052A030C | PC TUNER BLK AT-A200(E) |
| 1-1D | BA-A3052A030D | PC TUNER BLK AT-A200(V) |
| 1-1E | BA-A3052A030E | PC TUNER BLK AT-A200(S) |
| 1-1F | BA-A3052A030F | PC CONTROL BLK AT-A200L (E,B) |
| 1-1G | BA-A3052A030G | PC TUNER BLK AT-A200 (Y1) |
| 1-2A | BA-F0141A010A | PC FRONT END BLK FE41 (U,C,A, E,S,L) |
| 1-2B | BA-F0141A010B | PC FRONT END BLK FE41 (V) |
| 1-2C | BA-F0141A010C | PC FRONT END BLK FE41/SA (Y1) |
| 1-2 | BA-C1005A030A | PC FRONT BLK AC-A100 |
| 1-3A | BA-A3052A020A | PC CONTROL BLK AT-A200(U) |
| 1-3B | BA-A3052A020B | PC CONTROL BLK AT-A200(C) |
| 1-3C | BA-A3052A020C | PC CONTROL BLK AT-A200(A) |
| 1-3D | BA-A3052A020D | PC CONTROL BLK AT-A200(E,V,S) |
| 1-3E | BA-A3052A020E | PC CONTROL BLK AT-A200L (E,B) |
| 1-3F | BA-A3052A020F | PC CONTROL BLK AT-A200 (Y1) |

NOTES:

(1) PC TUNER BLK consists of following PC BOARDS.

- TUNER PC BOARD
- FRONT END PC BOARD
- CONNECTOR PC BOARD

(2) PC CONTROL BLK consists of following PC BOARDS.

- CONTROL PC BOARD
- POWER SW PC BOARD

2. TUNER PC BOARD

| REF. NO. | PART NO. | DESCRIPTION |
|-------------------|-----------|-------------------------------------|
| 2-IC1 | EI-354951 | IC LM7000 |
| 2-IC2 | EI-359060 | IC HA12430 |
| 2-IC3 | EI-359061 | IC LA3361 |
| 2-TR1 | ET-328265 | TR 2SC930 F |
| 2-TR2 | ET-337759 | TR FET 2SK246 GR |
| 2-TR3 | ET-349081 | TR 2SC3383 S,T |
| 2-TR4 | ET-338410 | TR 2SC2878 A,B [L] |
| 2-TR5 | ET-352408 | TR FET 2SK192A GR [L] |
| 2-TR6 | ET-338410 | TR 2SC2878 A,B [L] |
| 2-TR7 | ET-353898 | TR 2SC3330 [L] |
| 2-TR8,TR9 | ET-353899 | TR 2SA1317 S,T,U |
| 2-TR10 | ET-353898 | TR 2SC3330 |
| 2-TR11 | ET-351853 | TR FET 2SK161 Y |
| 2-TR12 | ET-328265 | TR 2SC930 F |
| 2-TR13 | ET-351853 | TR FET 2SK161 Y |
| 2-TR14 | ET-353898 | TR 2SC3330 |
| 2-TR15, TR16 | ET-353366 | TR 2SC3112 A,B |
| 2-TR17 to TR21 | ET-349081 | TR 2SC3383 S,T |
| 2-TR22, TR23 | ET-353898 | TR 2SC3330 [L] |
| 2-D1 | ED-306316 | D ZENER H HZ5 C2 |
| 2-D2,D3 | ED-349460 | D VARACTER SVC321 A,B,C,D DOUBLE |
| 2-D4,D5 | ED-344280 | D SILICON H GMA-01-FY2 F05 [L] |
| 2-D6 | ED-344280 | D SILICON H GMA-01-FY2 F05 |
| 2-D7 | ED-337265 | D ZENER H HZ6 C2 |
| 2-D8 to D10 | ED-301911 | D SILICON H DS448 |
| 2-D11 | ED-344280 | D SILICON H GMA-01-FY2 F05 |
| 2-SW1 | ES-344445 | SW TACT EVQ-QHR12B |
| 2-SW2 | ES-360115 | SW SLIDE 00120262 01-02S [U,Y1] |
| 2-VR1 | EV-356577 | R S-FIX H H0615C 3P 103 |
| 2-VR2 | EV-356579 | R S-FIX H H0615C 3P 102 |
| 2-FL1,FL2 | EH-355568 | FILTER CE SFE10.7MS2GY-A |
| 2-FL3 | EH-336804 | FILTER CE SFE10.7MA8 10.7MHZ |
| 2-FL4 | EH-355382 | FILTER LC BP 79-5151-11 [V] |
| 2-L1,L2 | EO-337523 | COIL FIX 1 L-8 223J |
| 2-T1 | EO-337598 | COIL VARI 1 25A-1353-01 |
| 2-T2 | EO-337599 | COIL VARI 2 25A-1354-03 [L] |
| 2-T3 | EO-336829 | COIL OSC 2 7NR-7818F 125UH |
| 2-T4 | EO-359062 | COIL OSC2 7BR-9585F [L] |
| 2-T5 | EO-359063 | COIL DET2 117-1009-01 |
| 2-T6 | EO-356732 | COIL IFT BCFLZ-450A |
| 2-X1 | EI-344422 | OSC X'TAL HC-18/U 7.200000MHZ |
| 2-VC1 | EC-359065 | CS-FIX H CTC-6U-020 4.3-20 |
| 2-VC2 | EC-359065 | CS-FIX H CTC-6U-020 4.3-20 [L] |
| 2-R6 | ER-306805 | R CB H S15 FS RDS 1/2W 101J |
| 2-R7 | ER-327710 | R CB H S10 FS RDS 1/4W 151J |
| 2-R8 | ER-360146 | R OMF H S10 FS 1/2W 151J |
| 2-R47 | ER-360146 | R OMF H S10 FS 1/2W 151J |
| 2-R64 | ER-328067 | R CB H S10 FS RDS 1/4W 331J |
| 2-C7 | EC-347591 | C MMY V F05 MMH63 474M 100DC |
| 2-C17A | EC-356597 | C PP V F05 PP 431J 50DC [EXCEPT L] |
| 2-C17B | EC-353044 | C PP V F05 PP 511J 50DC [L] |
| 2-C18 | EC-346879 | C PP V F05 PP 221J 50DC [L] |
| 2-C51 | EC-344483 | C PP V F05 PP 102J 50DC |
| 2-C62,C63 | EC-356598 | C PP V F05 PP 302J 50DC |
| 2-TM1 | EJ-359031 | TERMINAL LEVER YK-D31-0215 P2P |

3. FRONT END PC BOARD

| REF. NO. | PART NO. | DESCRIPTION |
|------------|-----------|--------------------------------------|
| 3-TR1 | ET-351853 | TR FET 2SK161 Y |
| 3-TR2 | ET-336869 | TR 2SC2999 C,D |
| 3-TR3 | ET-328265 | TR 2SC930 F |
| 3-TR4 | ET-351853 | TR FET 2SK161 Y |
| 3-D1 to D4 | ED-349448 | D VARACTOR 1SV147 |
| 3-L1 | EO-349461 | COIL FIX 2 LINK |
| 3-L2 | EO-349462 | COIL FIX 2 U147 |
| 3-L3 | EO-349461 | COIL FIX 2 LINK |
| 3-L4,L5 | EO-349462 | COIL FIX 2 U147 |
| 3-L6 | EO-359056 | COIL FIX 1 LAL03NA 2R2M |
| 3-L7A | EO-353687 | COIL OSC 2 E525HN-110003 [EXCEPT Y1] |
| 3-L7B | EO-361840 | COIL OSC 2 E525HNS-110011 [Y1] |
| 3-T1 | EO-337640 | COIL IFT 119AC-15533X 10.7MHZ |

4. CONTROL PC BOARD

| REF. NO. | PART NO. | DESCRIPTION |
|------------------|-----------|----------------------------|
| 4-IC1 | EI-359048 | IC C1005-736 |
| 4-TR1 | ET-353899 | TR 2SA1317 S,T,U [U,Y1] |
| 4-D1 | ED-301911 | D SILICON H DS448 [U,Y1] |
| 4-D2 | ED-301911 | D SILICON H DS448 [L] |
| 4-D3 | ED-301911 | D SILICON H DS448 [Y1] |
| 4-D4 | ED-301911 | D SILICON H DS448 [C,A] |
| 4-D5 to D7 | ED-301911 | D SILICON H DS448 |
| 4-D8 | ED-344280 | D SILICON H GMA-01-FY2 F05 |
| 4-D9,D10 | ED-301911 | D SILICON H DS448 |
| 4-D11 | ED-344280 | D SILICON H GMA-01-FY2 F05 |
| 4-D12,D13 | ED-301911 | D SILICON H DS448 |
| 4-D14 | ED-301911 | D SILICON H DS448 [A] |
| 4-D15 | ED-321269 | D LED GL5PR6 RED |
| 4-SW1 to SW10 | ES-349367 | SW TACT SKHHAB044A |
| 4-X1 | EI-348409 | OSC CE CSB400P 0.4MHZ |
| 4-IB1 | EH-359049 | COMP R TNC15A104J |
| 4-IN1 | EM-353670 | IND FL 8-BT-29ZK CHARACTER |

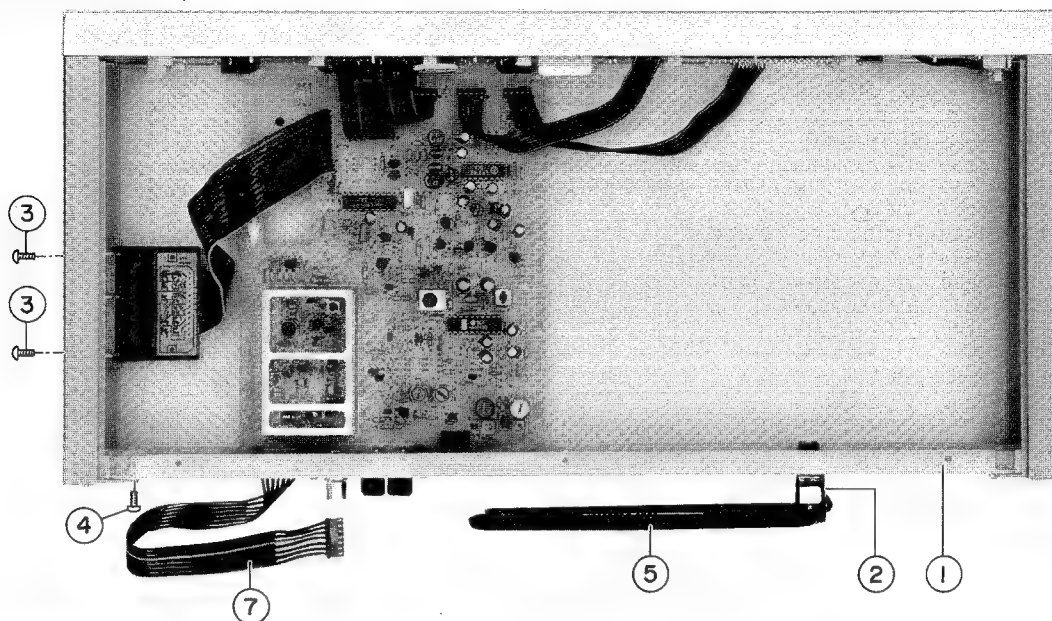
5. POWER SW PC BOARD

| REF. NO. | PART NO. | DESCRIPTION |
|----------|-----------|----------------|
| 5-SW11 | ES-359172 | SW TACT SKHHAF |

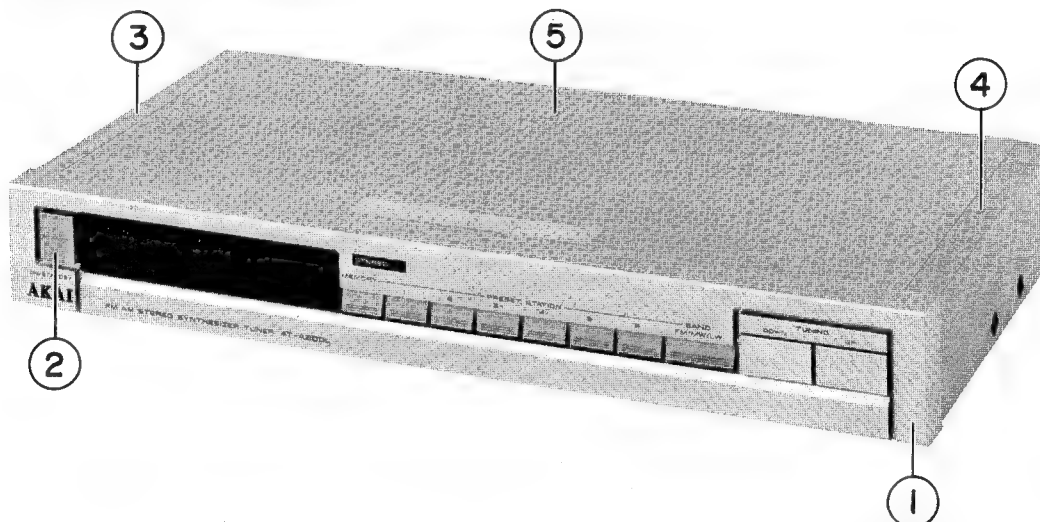
6. CONNECTOR PC BOARD

| REF. NO. | PART NO. | DESCRIPTION |
|----------|-----------|------------------------------|
| 6-P1 | EJ-356522 | PLUG CONNECTOR-B M1690-A 12P |

ASSEMBLY BLOCK



FINAL ASSEMBLY BLOCK



7. ASSEMBLY BLOCK

| REF. NO. | PART NO. | DESCRIPTION |
|----------|------------|-------------------------------|
| 7-1A | SP-358980A | PANEL REAR AT-A200(U,Y1) |
| 7-1B | SP-358980B | PANEL REAR AT-A200(A,C,E,S,V) |
| 7-1C | SP-358980E | PANEL REAR AT-A200L(E,B) |
| 7-2 | SZ-332739 | HOLDER ANTENNA |
| 7-3 | ZS-359179 | PT BR30x12STL BNI C |
| 7-4 | ZS-359226 | T2BR30x10STL BZN |
| 7-5 | EE-359265 | ANT LOOP LA-200A-A |
| 7-6x | EJ-352118 | SOCKET COAX PAL B2-714P-900 |
| 7-7 | EW-359171 | WIRE ASSY AT-A200 7P(T-A) |

8. FINAL ASSEMBLY BLOCK

| REF. NO. | PART NO. | DESCRIPTION |
|-----------------------------|---------------|---------------------------------|
| PANEL FRONT BLOCK | | |
| 8-1A | BD-A3052A050A | PANEL FRONT BLK AT-200 |
| 8-1B | BD-A3052A050B | PANEL FRONT BLK AT-A200L |
| 8-1C | BD-A3052A050C | PANEL FRONT BLK AT-A200-B [BL] |
| 8-1D | BD-A3052A050D | PANEL FRONT BLK AT-A200L-B [BL] |
| 8-2 | SK-343017C | KNOB POWER (2) |
| 8-2B | SK-343017F | KNOB POWER-B |
| FINAL ASSEMBLY BLOCK | | |
| 8-3 | BD-358978A | PANEL SIDE(L) |
| 8-3B | BD-358978B | PANEL SIDE (L)-B |
| 8-4 | BD-358979A | PANEL SIDE(R) |
| 8-4B | BD-358979B | PANEL FRONT (R)-B |
| 8-5 | BC-358993A | COVER T-1 |
| 8-5B | BC-358993G | COVER T-1B |

SYMBOL FOR COLOR VARIATION
 NON : STANDARD COLOR
 B or BL : BLACK

IV. MODEL AM-A200

RECOMMENDED SPARE PARTS

Because, if the parts listed below are on hand, almost any repair can be accomplished, we suggest that you stock these Recommended Spare Parts Items.

| REF. NO. | PART NO. | DESCRIPTION |
|----------|-----------|-----------------------------------|
| 1 N | BT-359195 | △ TRANS POWER A2043T-20 (A) |
| 2 N | BT-359194 | △ TRANS POWER A2043T-30 (C) |
| 3 N | BT-359197 | △ TRANS POWER A2043T-50 (B,S) |
| 4 N | BT-359193 | △ TRANS PWVER A2043T-70 (U) |
| 5 N | BT-359196 | △ TRANS POWER JA2043T-40 (E,V) |
| 6 | ED-348200 | △ D SILICON DBA20C-K15 200/2.0A |
| 7 | ED-200213 | △ D SILICON DBA40C-K15 200/2.6A |
| 8 | ED-346616 | △ D ZENER H HZ12 B3 |
| 9 | ED-346617 | △ D ZENER H HZ12 C2 |
| 10 | ED-337391 | D LED GL5NG6 GREEN |
| 11 | ED-357754 | D SILICON DS135D 200/1.0A |
| 12 | ED-301911 | D SILICON H DS448 |
| 13 | ED-319176 | D ZENER H HZ12 A3 |
| 14 | ED-322046 | D ZENER H HZ18 1 |
| 15 | ED-329056 | D ZENER H HZ22 2 |
| 16 | ED-302269 | D ZENER H HZ5 A2 |
| 17 | ED-346603 | D ZENER H HZ6 A1 |
| 18 | ED-337265 | D ZENER H HZ6 C2 |
| 19 N | EF-359007 | △ FUSE BET T 1.25A 250V [B] |
| 20 | EF-359225 | △ FUSE BET T 3.15A 250V [B] |
| 21 N | EF-359086 | △ FUSE BET T 4.00A 250V [B] |
| 22 | EF-602550 | △ FUSE SEMKO T 1.25A 250V [E,V,S] |
| 23 | EF-690996 | △ FUSE SEMKO T 250V 4.00A [E,V,S] |
| 24 | EF-691007 | △ FUSE SEMKO T 3.15A 250V [E,V,S] |
| 25 | EF-311839 | △ FUSE TSC A 250V 1.60A [U] |
| 26 | EF-306952 | △ FUSE TSC A 250V 4.00A [U] |
| 27 | EF-308847 | △ FUSE TSC 125V 1.60A [C,A] |
| 28 | EF-323080 | △ FUSE TSC 125V 3.15A [C,A] |
| 29 | EF-306957 | △ FUSE TSC 125V 4.00A [C,A] |
| 30 | EI-346071 | IC M5218L-21 |
| 31 | EI-337228 | IC M5218L0 |
| 32 N | EI-359221 | IC M5226P |
| 33 N | EI-358554 | IC STK4152-2 |
| 34 | EI-332259 | IC TC4052BP |
| 35 | ER-200595 | △ R FUSE ERD2FC S10 1/4W 5R6J |
| 36 | ES-349070 | △ SW SELECTOR YKS11-0002 02-4 [U] |
| 37 N | ES-359218 | SW PUSH ESB-62951 2-02-02N |
| 38 N | ES-359961 | SW PUSH ESB621901 2 THROW |
| 39 | ES-337902 | SW PUSH SDLD1P002 01-1 |
| 40 | ET-349459 | △ TR 2SD1406 O,Y,GR |
| 41 | ET-355216 | TR 2SA1317 T,U |
| 42 | ET-353899 | TR 2SA1317 S,T,U |
| 43 | ET-322598 | TR 2SB632K E,F |
| 44 | ET-353898 | TR 2SC3330 |
| 45 | ET-360137 | TR 2SC3330 U,V |
| 46 | ET-338565 | TR 2SD1302 R,S |
| 47 N | EV-359220 | VR ROTARY 16P20x3Y B104 |
| 48 N | EV-359083 | VR SLIDE 30PSVOH MN254 |
| 49 N | EV-359219 | VR SLIDE 30P2SVOIW104 |

“NOTE” N: New Parts

SYMBOL FOR DESTINATION

- [A]: AAL (USA)
- [B]: UK (England)
- [C]: CSA (Canada)
- [E]: CEE (Europe)
- [S]: SAA (Australia)
- [U]: U/T (Universal Area)
- [V]: VDE (West Germany)

1. PC BOARD BLOCK

| REF. NO. | PART NO. | DESCRIPTION |
|----------|---------------|---------------------------------------|
| 1-1A | BA-A2043A040A | PC PRE AMP BLK AM-A200 (U,C,A, E,B,S) |
| 1-1B | BA-A0043A040B | PC PRE AMP BLK AM-A200(V) |
| 1-2A | BA-A2043A020A | PC MAIN BLK AM-A200(U) |
| 1-2B | BA-A2043A020B | PC MAIN BLK AM-A200(C,A) |
| 1-2C | BA-A2043A020C | PC MAIN BLK AM-A200(E,V,B,S) |

NOTE:

PC PRE AMP BLK consists of following PC BOARDS.

- PRE AMP PC BOARD
- GRAPHIC EQ PC BOARD
- LED PD BOARD
- VOLUME PC BOARD

2. PRE AMP PC BOARD

| REF. NO. | PART NO. | DESCRIPTION |
|----------|-----------|----------------------------------|
| 2-IC1 | EI-346071 | IC M5218L-21 |
| 2-IC2 | EI-332259 | IC TC4052BP |
| 2-IC3 | EI-337228 | IC M5218L0 |
| 2-TR1 | ET-355216 | TR 2SA1317 T,U |
| 2-TR2 | ET-353899 | TR 2SA1317 S,T,U |
| 2-TR3 | | |
| to TR7 | ET-353898 | TR 2SC3330 |
| 2-TR8 | ET-338565 | TR 2SD1302 R,S |
| 2-D1 | ED-357754 | D SILICON DS135D 200/1.0A |
| 2-D2 | ED-301911 | D SILICON H DS448 |
| 2-D3,D4 | ED-346603 | D ZENER H HZ6 A1 |
| 2-D9 | ED-357754 | D SILICON DS135D 200/1.0A |
| 2-SW1 | ES-359218 | SW PUSH ESB-62951 2-02-02N |
| 2-L1 | EO-318635 | COIL FIX 1 LAL04SK 2R2K [V] |
| 2-J1 | EJ-336905 | PIN J AJC-035-ACB P 4P |
| 2-J2 | EJ-359067 | SOCKET INLET HEC0470-01-640 |
| 2-P1 | EJ-359178 | PLUG CONNECTOR S7B-XH-A BLACK 7P |

3. GRAPHIC EQ PC BOARD

| REF. NO. | PART NO. | DESCRIPTION |
|----------|-----------|------------------------|
| 3-IC4, | | |
| IC5 | EI-359221 | IC M5226P |
| 3-TR9 | | |
| to TR12 | ET-353898 | TR 2SC3330 |
| 3-VR1 | EV-359083 | VR SLIDE 30PSVOH MN254 |
| 3-VR2 | | |
| to VR10 | EV-359219 | VR SLIDE 30P2SVOIW104 |

4. MAIN PC BOARD

| REF. NO. | PART NO. | DESCRIPTION |
|-----------------------|-----------|-------------------------------------|
| MAIN PC BOARD | | |
| 4-IC101 | EI-358554 | △ IC STK4152-2 |
| 4-TR102, | | |
| TR103 | ET-349459 | △ TR 2SD1406 O,Y,GR |
| 4-TR104 | ET-322598 | △ TR 2SB632K E,F |
| 4-TR105 | ET-353899 | TR 2SA1317 S,T,U |
| 4-TR106, | | |
| TR107 | ET-360137 | TR 2SC3330 U,V |
| 4-D101 | ED-301911 | D SILICON H DS448 |
| 4-D102 | ED-329056 | D ZENER H HZ22 2 |
| 4-D103 | ED-337265 | D ZENER H HZ6 C2 |
| 4-D104 | ED-319176 | D ZENER H HZ12 A3 |
| 4-D105 | ED-346616 | △ D ZENER H HZ12 B3 |
| 4-D106 | ED-346617 | △ D ZENER H HZ12 C2 |
| 4-D108, | | |
| D109 | ED-301911 | D SILICON H DS448 |
| 4-D110 | ED-322046 | △ D ZENER H HZ18 1 |
| 4-D111 | ED-302269 | D ZENER H HZ5 A2 |
| 4-D112 | ED-348200 | △ D SILICON DBA20C-K15 200/2.0A |
| 4-D113 | ED-200213 | △ D SILICON DBA40C-K15 200/2.6A |
| 4-D114 | | |
| to D116 | ED-301911 | D SILICON H DS448 |
| 4-L101 | EO-337880 | COIL FIX 2 202AK-018 2R2K |
| 4-FR1,FR2 | ER-200595 | △ R FUSE ERD2FC S10 1/4W 5R6J |
| 4-R107, | | |
| R108 | ER-324480 | △ R CB H S10 FS RDS 1/4W 470J |
| 4-R111, | | |
| R112 | ER-359351 | △ R OMF H S12 FS 1W 4R7J |
| 4-R116 | ER-359269 | △ R OMF H S12 FS 1W 221J |
| 4-R121, | | |
| R122 | ER-322591 | △ R CB H S10 FS RDS 1/4W 101J [C,A] |
| 4-C114 | EC-323846 | C EC V CUT H 102M 35.0DC |
| 4-C116, | | |
| C117 | EC-360113 | C EC V S10 TS 472M 45.0DC |
| 4-C118 | EC-326583 | C MMY V CUT CF921 473K 400DC |
| ASSEMBLY BLOCK | | |
| 4-TR101 | ET-349459 | △ TR 2SC1406 O,Y,GR |
| 4-F3A | EF-306957 | △ FUSE TSC 125V 4.00A [C,A] |
| 4-F3B | EF-690996 | △ FUSE SEMKO T 250V 4.00A [E,V,S] |
| 4-F3C | EF-359086 | △ FUSE BET T 4.00A 250V [B] |
| 4-F4A | EF-306957 | △ FUSE TSC 125V 4.00A [C,A] |
| 4-F4B | EF-690996 | △ FUSE SEMKO T 250V 4.00A [E,V,S] |
| 4-F4C | EF-359086 | △ FUSE BET T 4.00A 250V [B] |
| 4-F5A | EF-308847 | △ FUSE TSC 125V 1.60A [C,A] |
| 4-F5B | EF-602550 | △ FUSE SEMKO T 1.25A 250V [E,V,S] |
| 4-F5C | EF-359007 | △ FUSE BET T 1.25A 250V [B] |
| 4-F6A | EF-306952 | △ FUSE TSC A 250V 4.00A [U] |
| 4-F6B | EF-306957 | △ FUSE TSC 125V 4.00A [C,A] |
| 4-F6C | EF-691007 | △ FUSE SEMKO T 3.15A 250V [E,V,S] |
| 4-F6D | EF-359225 | △ FUSE BET T 3.15A 250V [B] |
| 4-F7A | EF-306952 | △ FUSE TSC A 250V 4.00A [U] |
| 4-F7B | EF-306957 | △ FUSE TSC 125V 4.00A [C,A] |
| 4-F7C | EF-691007 | △ FUSE SEMKO T 3.15A 250V [E,V,S] |
| 4-F7D | EF-359225 | △ FUSE BET T 3.15A 250V [B] |

5. POWER SUPPLY PC BOARD

| REF. NO. | PART NO. | DESCRIPTION |
|----------|-----------|------------------------------------|
| 5-SW201 | ES-337902 | SW PUSH SDLD1P002 01-1 |
| 5-SW202 | ES-359961 | SW PUSH ESB621901 2 THROW |
| 5-L201 | EO-338409 | COIL LF FKOB160MHO2 250UH [V] |
| 5-L202, | | |
| L203 | EO-342936 | COIL BALUN [V] |
| 5-R201 | ER-356573 | △ R SD ANTI-STATIC 1/2W 225K [C,A] |
| 5-R202 | ER-359268 | △ R OMF H S12 FS 1W 181J |
| 5-C201A | EC-320548 | C CE V F 103Z 250AC [U] |
| 5-C201B | EC-314688 | C CE V FZ 103P 125AC [C,A] |
| 5-C201C | EC-338496 | C CE V FZ472P 400AC [E,B,S] |
| 5-TM201 | EJ-349061 | TERMINAL PUSH YKD21-0025 P 8P |
| 5-J201 | EJ-359222 | PHONE J 3P HLJ4318-3020 6.3 20 |
| 5-F1A | EF-311839 | △ FUSE TSC A 250V 1.60A [U] |
| 5-F1B | EF-323080 | △ FUSE TSC 125V 3.15A [C,A] |
| 5-F1C | EF-602550 | △ FUSE SEMKO T 1.25A 250V [E,V,S] |
| 5-F1D | EF-359007 | △ FUSE BET T 1.25A 250V [B] |
| 5-F2 | EF-311839 | △ FUSE TSC A 250V 1.60A [U] |

6. LED PC BOARD

| REF. NO. | PART NO. | DESCRIPTION |
|------------|-----------|--------------------|
| 6-D5 to D8 | ED-337391 | D LED GL5NG6 GREEN |

7. VOLUME PC BOARD

| REF. NO. | PART NO. | DESCRIPTION |
|----------|-----------|-------------------------|
| 7-VR11 | EV-359220 | VR ROTARY 16P20×3Y B104 |

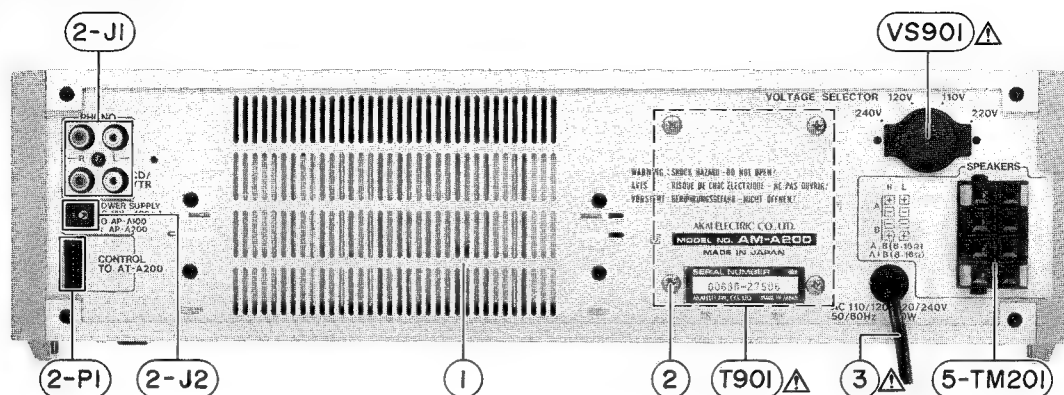
8. CONNECTOR (A) PC BOARD

| REF. NO. | PART NO. | DESCRIPTION |
|----------|-----------|--------------------------------|
| 8-J901 | EJ-356521 | SOCKET CONNECTOR-B M1701-A 12P |

9. CONNECTOR (B) PC BOARD

| REF. NO. | PART NO. | DESCRIPTION |
|----------|-----------|------------------------------|
| 9-P901 | EJ-356522 | PLUG CONNECTOR-B M1690-A 12P |

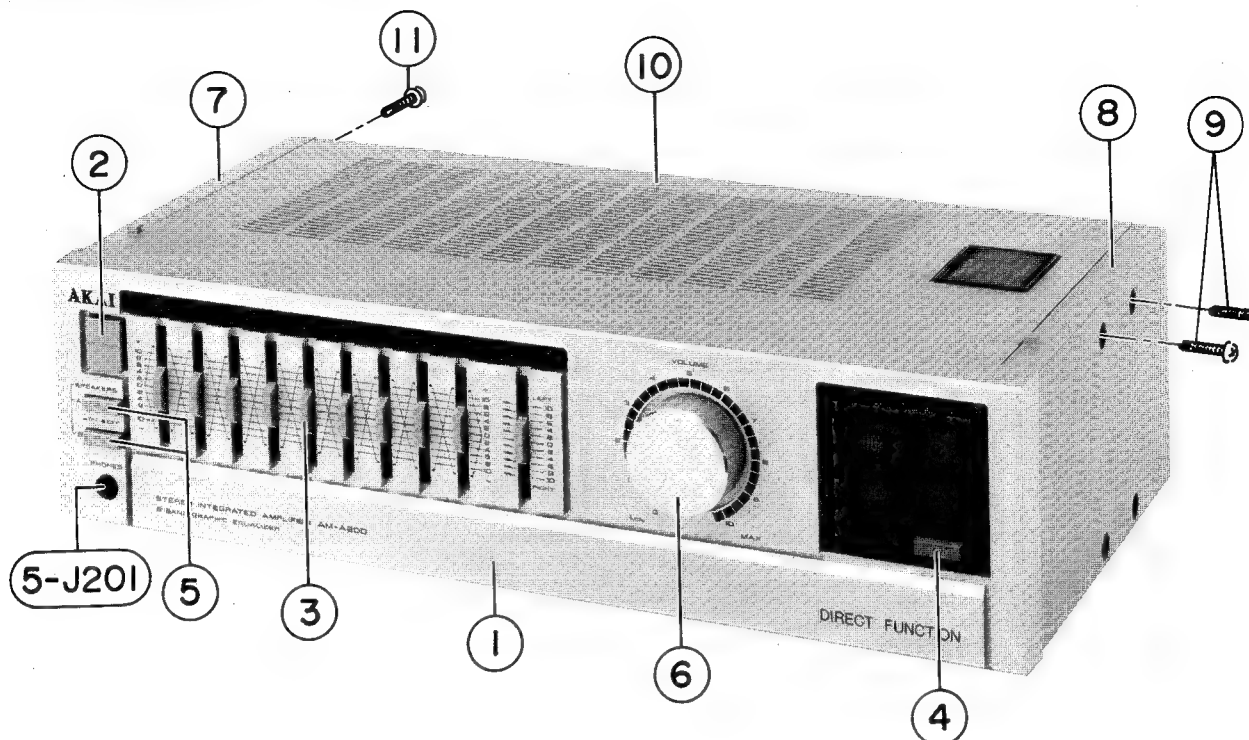
ASSEMBLY BLOCK



10. ASSEMBLY BLOCK

| REF. NO. | PART NO. | DESCRIPTION |
|------------------------------|------------|--|
| ASSEMBLY BLOCK | | |
| 10-1A | SP-358990E | PANEL REAR AM-A200(U) |
| 10-1B | SP-358990C | PANEL REAR AM-A200(A,C) |
| 10-1C | SP-358990A | PANEL REAR AM-A200(E,V) |
| 10-1D | SP-358990B | PANEL REAR AM-A200(B,S) |
| 10-2 | ZS-322580 | ST BID40X08STL BNI [POWER TRANS FIX] |
| 10-3A | EW-359076 | △ AC CORD C1005 U [U] |
| 10-3B | EW-359077 | △ AC CORD CD1005 C [C] |
| 10-3C | EW-359078 | △ AC CORD 2 CORES VM02380 SPT-1-CB UC [A] |
| 10-3D | EW-359079 | △ AC CORD 2 CORES VM0364 LC2×0.75CB EV [E,V] |
| 10-3E | EW-359204 | △ AC CORD 2 CORES LC2×0.75-CB B [B] |
| 10-3F | EW-359081 | AC CORD 2 CORES VM0436 LC2×0.75CB S [S] |
| 10-T901A | BT-359193 | △ TRANS POWER A2043T-70 (U) |
| 10-T901B | BT-359194 | △ TRANS POWER A2043T-30 (C) |
| 10-T901C | BT-359195 | △ TRANS POWER A2043T-20 (A) |
| 10-T901D | BT-359196 | △ TRANS POWER JA2043T-40 (E,V) |
| 10-T901E | BT-359197 | △ TRANS POWER A2043T-50 (B,S) |
| 10-VS901 | ES-349070 | △ SW SELECTOR YKS11-0002 02-4 [U] |
| PRE AMP PC BOARD | | |
| 2-J1 | EJ-336905 | PIN J AJC-035-ACB P 4P |
| 2-J2 | EJ-359067 | SOCKET INLET HEC0470-01-640 |
| 2-P1 | EJ-359178 | PLUG CONNECTOR S7B-XH-A BLACK 7P |
| POWER SUPPLY PC BOARD | | |
| 5-TM201 | EJ-349061 | TERMINAL PUSH YKD21-0025 P8P |

FINAL ASSEMBLY BLOCK



11. FINAL ASSEMBLY BLOCK

| REF. NO. | PART NO. | DESCRIPTION |
|------------------------------|---------------|----------------------------------|
| PANEL FRONT BLOCK | | |
| 11-1 | BD-A2043A050A | PANEL FRONT BLK AM-A200 |
| 11-1B | BD-A2043A050B | PANEL FRONT BLK AM-A200-B |
| 11-2 | SK-343017C | KNOB POWER (2) |
| 11-2B | SK-343017F | KNOB POWER-B |
| 11-3 | SK-358879 | KNOB SLIDE |
| FINAL ASSEMBLY BLOCK | | |
| 11-4 | SB-358882 | BUTTON PUSH |
| 11-5 | SB-358882B | BUTTON PUSH(2) |
| 11-6 | SK-B358605X2 | KNOB VR (Y) PART |
| 11-6B | SK-B358605X4 | KNOB VR (Y)-B PART |
| 11-7 | BD-358994A | PANEL SLIDE (L) |
| 11-7B | BD-358994B | PANEL SIDE(L)-B |
| 11-8 | BD-358995A | PANEL SIDE (R) |
| 11-8B | BD-358995B | PANEL SIDE(R)-B |
| 11-9 | ZS-359179 | PT BR 30×12STL BNI C [J901 FIX] |
| 11-10 | BC-358993C | COVER A-1 |
| 11-10B | BC-358993H | COVER A-1B |
| 11-11 | ZS-359226 | T2BR30X10STL BZN [COVER A-1 FIX] |
| POWER SUPPLY PC BOARD | | |
| 5-J201 | EJ-359222 | PHONE J 3P HLJ4318-3020 6.3 20 |

NOTE:

PANEL FRONT BLK consists of 11-2 and 11-3.

V. MODEL HX-A200

RECOMMENDED SPARE PARTS

Because, if the parts listed below are on hand, almost any repair can be accomplished, we suggest that you stock these Recommended Spare Parts Items.

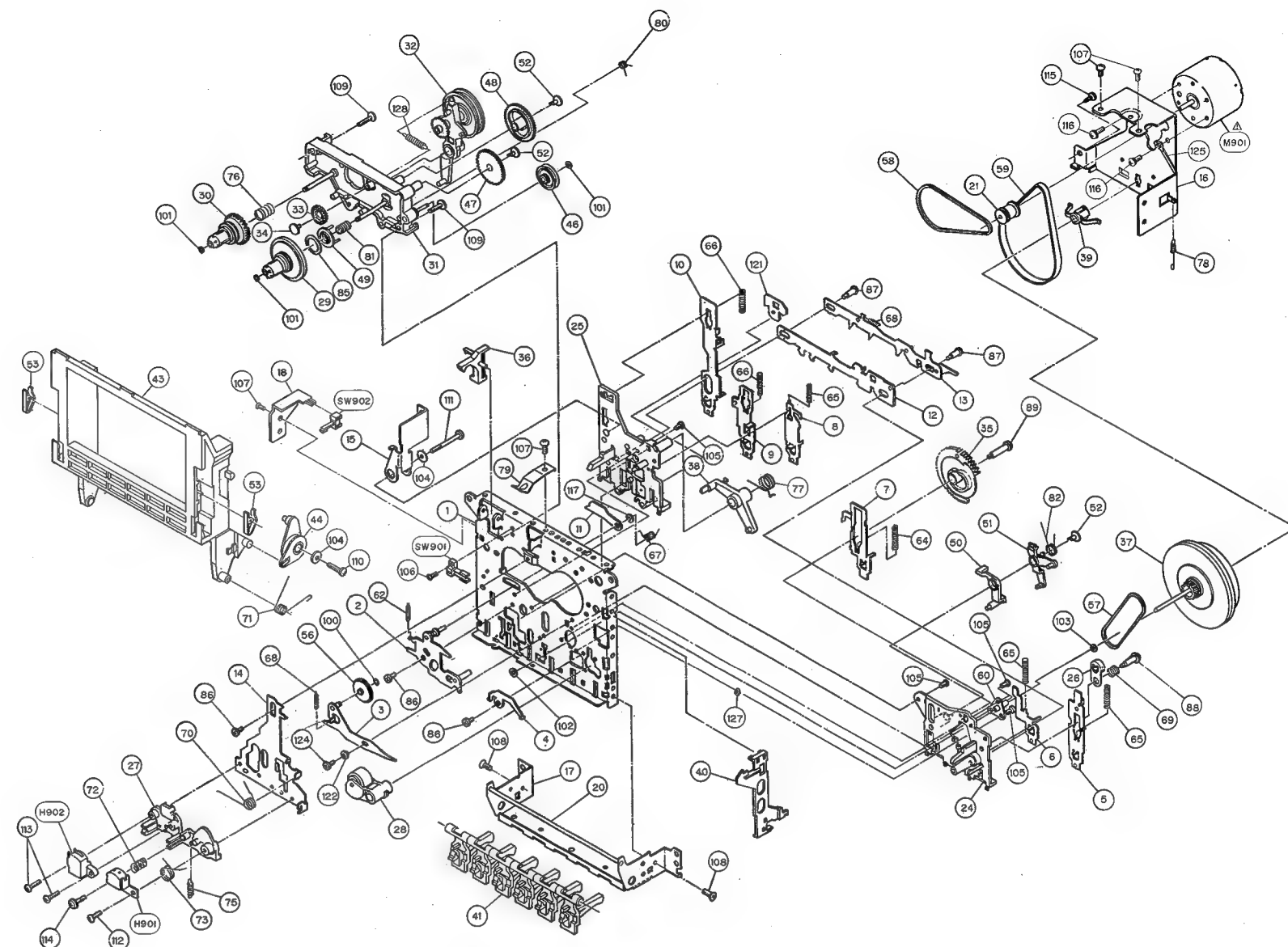
| REF. NO. | PART NO. | DESCRIPTION |
|-------------|-----------|-----------------------------|
| 1 | BF-712807 | FLYWHEEL ASSY |
| 2 | BL-712799 | PINCH ROLLER ARM ASSY |
| 3 | BM-712825 | △ MOTOR (W/PULLEY) ASSY D0. |
| 4 | BR-715919 | SUPPLY REEL ASSY |
| 5 | BR-715918 | TAKE-UP REEL ASSY |
| 6 | ED-330996 | D LED GL5HY5 YELLOW |
| 7 | ED-337391 | D LED GL5NG6 GREEN |
| 8 | ED-321269 | D LED GL5PR6 RED |
| 9 | ED-344280 | D SILICON H GMA-01-FY2 F05 |
| 10 | ED-324014 | D ZENER H HZ11 B1 |
| 11 | ED-331617 | D ZENER H HZ6 A3 |
| 12 | EH-351182 | FILTER DB 201AK-005 100KHZ |
| 13 | EI-349591 | IC LA2730 |
| 14 | EI-345551 | IC LB1403 |
| 15 | EO-349589 | COIL OSC 1 32-5016-12 |
| 16 N | ES-716377 | SW LEAF LSA-1120YN |
| 17 | ES-713179 | SW LSA-1123-37 |
| 18 N | ES-362802 | SW PUSH ESB-621574 4 THROW |
| 19 N | ES-359071 | SW PUSH ESB-62771 2-02-02N |
| 20 N | ES-359192 | SW PUSH SPUL12 2-02-02N |
| 21 N | ES-359189 | SW SLIDE SSCK17 1-07-02S |
| 22 | ET-308977 | TR 2SC2274K F |
| 23 | ET-344275 | TR 2SC2320L F,G |
| 24 | ET-360137 | TR 2SC3330 U,V |
| 25 | ET-349081 | TR 2SC3383 S,T |
| 26 | ET-350795 | TR 2SC3399 |
| 27 | ET-349366 | TR 2SC3402 |
| 28 | ET-310148 | TR 2SD612K E,F |
| 29 N | EV-356582 | R S-FIX M H0615C 3P 473 |
| 30 | HE-337047 | HEAD E HAJAB3040A C |
| 31 | HP-712824 | HEAD R/P PHY424528 SVK |
| 32 | MB-712818 | BELT AUTO |
| 33 | MB-712820 | BELT DRIVE |
| 34 | MB-712819 | BELT FR |
| 35 | MB-351605 | BELT 0.8xD593 CRHS65 |
| 36 | MC-353312 | COUNTER MK395-043 (BLACK) |
| 37 | MI-715935 | CLUTCH ARM ASSY |
| 38 | MI-712813 | GEAR ATUO |
| 39 | MI-711710 | GEAR C |
| 40 | MI-712814 | GEAR CAM AUTO |
| 41 | MI-712804 | GEAR FF |
| 42 | MI-712817 | IDLER PLAY |
| 43 | MI-712812 | PULLEY AUTO |

“NOTE” N: New Parts

SYMBOL FOR DESTINATION

- [A]: AAL (USA)
- [B]: UK (England)
- [C]: CSA (Canada)
- [E]: CEE (Europe)
- [S]: SAA (Australia)
- [U]: U/T (Universal Area)
- [V]: VDE (West Germany)

MECHA BLOCK



1. MECHA BLOCK

| REF. NO. | PART NO. | DESCRIPTION | REF. NO. | PART NO. | DESCRIPTION | REF. NO. | PART NO. | DESCRIPTION |
|----------|-----------|----------------------------|----------|-----------|-----------------|----------|-----------|-------------------------|
| 1-1 | BB-359082 | MECHA AKI-95 FMF C1005 BLK | 1-47 | MI-712813 | GEAR AUTO | 1-80 | ZG-716194 | SP AUTO SENSER |
| 1-24 | ML-716375 | LEVER HOLDER (A) | 1-48 | MI-712814 | GEAR CAM AUTO | 1-81 | ZS-716355 | SP AUTO CLUTCH |
| 1-26 | MZ-716171 | CAM PAUSE | 1-49 | MI-715920 | CLUTCH AUTO | 1-82 | ZG-716197 | SP UATO LOCK ARM |
| 1-27 | HZ-716172 | HEAD BASE | 1-50 | ML-716179 | ARM AUTO(B) | 1-85 | TC-712823 | FELT AUTO CLUTCH |
| 1-28 | BL-712799 | PINCH ROLLER ARM ASSY | 1-51 | ML-716180 | ARM ATUO LOCK | 1-112 | ZS-536488 | BID20x08STL CMT |
| 1-29 | BR-715918 | TAKE-UP REEL ASSY | 1-52 | ZW-716181 | BUSH | 1-113 | ZS-749292 | BID20x8.5STL CMT |
| 1-30 | BR-715919 | SUPPLY REEL ASSY | 1-53 | ZG-712816 | CLMAP CASSETTE | 1-114 | ZS-749293 | BID20x09STL CMT TW |
| 1-32 | MI-715935 | CLUTCH ARM ASSY | 1-56 | MI-712817 | IDLER PLAY | 1-128 | ZG-715922 | SP CLUTCH ARM |
| 1-33 | MI-712804 | GEAR FF | 1-57 | MB-712818 | BELT AUTO | 1-H901 | HP-712824 | HEAD R/P HY424528 SVK |
| 1-34 | MZ-749256 | BUSH | 1-58 | MB-712819 | BELT FR | 1-H902 | HE-337047 | HEAD E HAJAB3040A C |
| 1-35 | MI-711710 | GEAR C | 1-59 | MB-712820 | BELT DRIVE | 1-M901 | BM-712825 | Δ MOTOR (W/PULLEY) ASSY |
| 1-36 | ML-712806 | REC SENSOR | 1-60 | MV-716186 | MAIN CASE | 1-SW901 | ES-716377 | SW LEAF LSA-1120YN |
| 1-37 | BF-712807 | FLYWHEEL L ASSY | 1-67 | ZG-716187 | SP REC LEVER | 1-SW902 | ES-713179 | SW LSA-1123-37 |
| 1-38 | ML-716175 | ARM LOCK (H) | 1-68 | ZG-716188 | SP CAM | | | |
| 1-39 | MZ-712808 | HOLDER CAPSTAN | 1-69 | ZG-716189 | SP PAUSE CAM | | | |
| 1-40 | ML-712809 | LEVER EJECT | 1-70 | ZG-716190 | SP HEAD CHASSIS | | | |
| 1-41 | SB-716178 | BUTTON LEVER | 1-72 | ZG-749268 | SP HEAD | | | |
| 1-43 | TC-712810 | LID FRAME | 1-73 | ZG-715921 | SP PINCH ROLLER | | | |
| 1-44 | TC-712811 | DAMPER ASSY | 1-75 | ZG-715940 | SP HEAD RETURN | | | |
| 1-46 | MI-712812 | PULLEY AUTO | 1-78 | ZG-716193 | SP EJECT LEVER | | | |
| | | | 1-79 | ZG-712822 | SP PACK | | | |

Note:
Parts will not be supplied if they are not listed in the parts list, even if they appear on the assembling illustrations with reference No..

2. PC BOARD BLOCK

| REF. NO. | PART NO. | DESCRIPTION |
|-------------|---------------|------------------------|
| 2-1 | BA-T2085A020A | PC PRE AMP BLK HX-A200 |

NOTE:

PC PRE AMP LBK consists of following PC BOARDS.

- PRE AMP PC BOARD
- STAND BY SW PC BOARD
- LED PC BOARD

6. LED PC BOARD

| REF. NO. | PART NO. | DESCRIPTION |
|-------------|-----------|--------------------|
| 6-D207 | ED-321269 | D LED GL5PR6 RED |
| 6-D208 | ED-337391 | D LED GL5NG6 GREEN |

3. PRE AMP PC BOARD

| REF. NO. | PART NO. | DESCRIPTION |
|---------------------|-----------|---|
| 3-IC201 | EI-349591 | IC LA2730 |
| 3-TR201 | ET-344275 | TR 2SC2320L F,G |
| 3-TR202 | ET-350795 | TR 2SC3399 |
| 3-TR203 to TR207 | ET-349081 | TR 2SC3383 S,T |
| 3-TR208, TR209 | ET-308977 | TR 2SC2274K F |
| 3-TR210 | ET-360137 | TR 2SC3330 U,V |
| 3-TR211 | ET-310148 | TR 2SD612K E,F |
| 3-TR212 | ET-360137 | TR 2SC3330 U,V |
| 3-TR213 | ET-349366 | TR 2SC3402 |
| 3-TR214, TR215 | ET-349081 | TR 2SC3383 S,T |
| 3-TR216, TR217 | ET-349366 | TR 2SC3402 |
| 3-D201 to D203 | ED-344280 | D SILICON H GMA-01-FY2 F05 |
| 3-D204 | ED-331617 | D ZENER H HZ6 A3 |
| 3-D205 | ED-324014 | D ZENER H HZ11 B1 |
| 3-SW201 | ES-359189 | SW SLIDE SSK17 1-07-02S |
| 3-SW202 | ES-362082 | SW PUSH ESB-621574 4 THROW [INCLUDING SW203] |
| 3-SW203 | ES-359071 | SW PUSH ESB-62771 2-02-02N |
| 3-VR201 to VR203 | EV-356582 | R S-FIX H H0615C 3P 473 |
| 3-FL201 | EH-351182 | FILTER DB 201AK-005 100KHZ |
| 3-FL202 | EO-356809 | COIL FIX 1 100Z-121 100.00KC |
| 3-L201 | EO-357050 | COIL FIX 1 RC875 822J |
| 3-T201 | EO-349589 | COIL OSC 1 32-5016-12 |
| 3-C232 | EC-347263 | C MC V F05 FM 221J 500DC |
| 3-C237 | EC-326138 | C PP V F10 APH 182J 630DC |

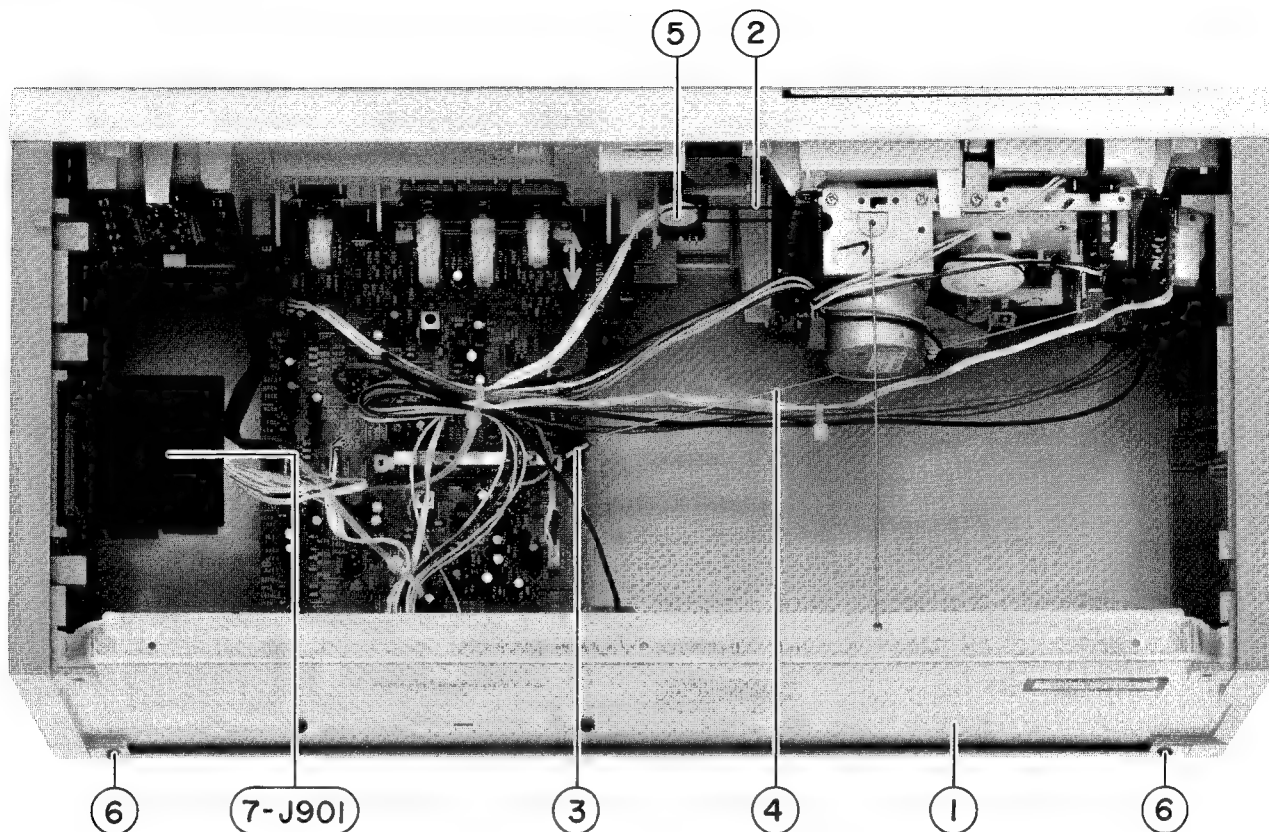
4. LEVEL METER PC BOARD

| REF. NO. | PART NO. | DESCRIPTION |
|-------------|-----------|---------------------|
| 4-IC101 | EI-345551 | IC LB1403 |
| 4-D1,D2 | ED-337391 | D LED GL5NG6 GREEN |
| 4-D3,D4 | ED-330996 | D LED GL5HY5 YELLOW |
| 4-D5 | ED-321269 | D LED GL5PR6 RED |

5. STAND BY SW PC BOARD

| REF. NO. | PART NO. | DESCRIPTION |
|-------------|-----------|-------------------------|
| 5-SW204 | ES-359192 | SW PUSH SPUL12 2-02-02N |

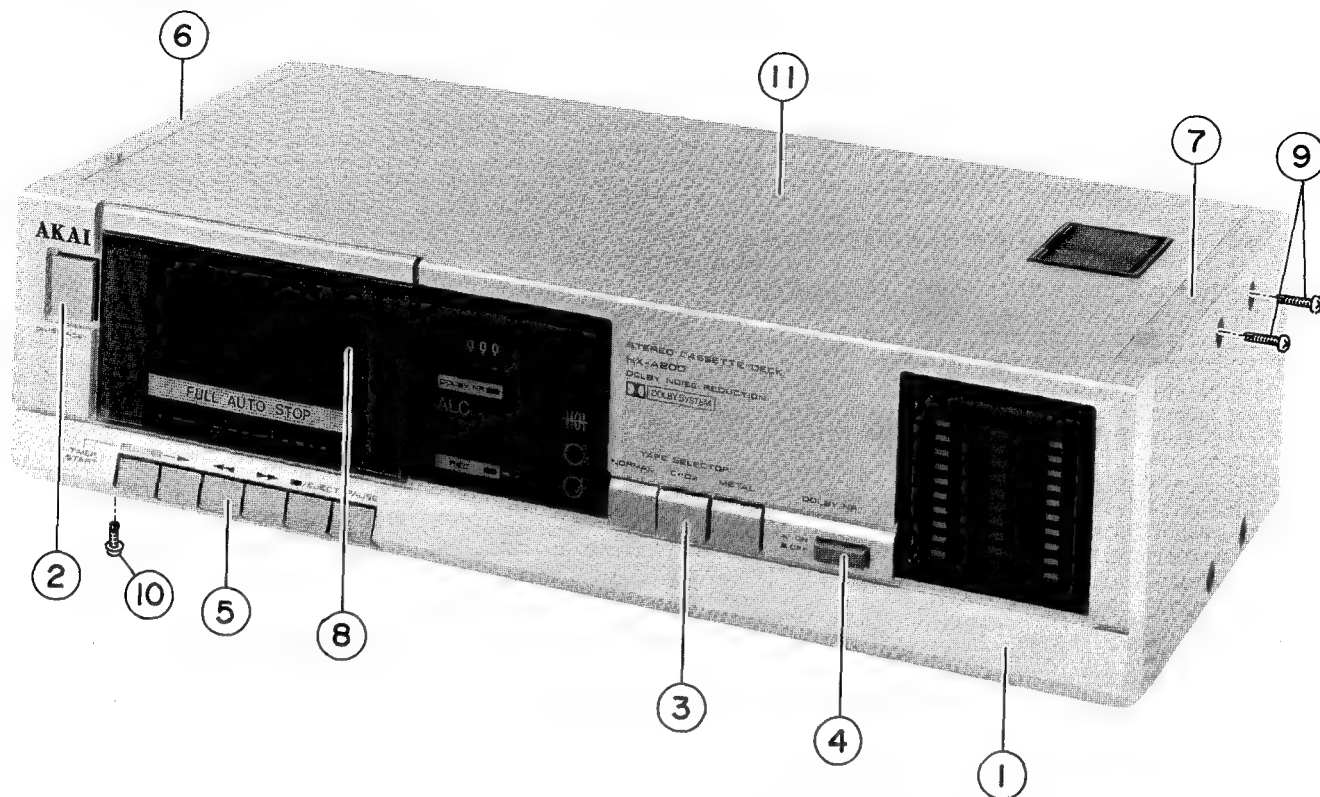
ASSEMBLY BLOCK



7. ASSEMBLY BLOCK

| REF. NO. | PART NO. | DESCRIPTION |
|-------------|-----------|--------------------------------|
| 7-1 | SP-359004 | PANEL REAR HX-A200 |
| 7-2 | MB-351605 | BELT 0.8xD593 CRHS65 |
| 7-3 | ZG-359249 | SP REC |
| 7-4 | MZ-359250 | JOINT REC |
| 7-5 | MC-353312 | COUNTER MK395-043 (BLACK) |
| 7-6 | ZS-309315 | T 2BR30x10STL BNI |
| 7-J901 | EJ-356521 | SOCKET CONNECTOR-B M1701-A 12P |

FINAL ASSEMBLY BLOCK



8. FINAL ASSEMBLY BLOCK

| REF. NO. | PART NO. | DESCRIPTION |
|----------|------------|--|
| 8-1 | BD-358999A | PANEL FRONT |
| 8-1B | BD-358999B | PANEL FRONT-B |
| 8-2 | SK-343017C | KNOB POWER (2) |
| 8-2B | SK-343017F | KNOB POWER-B |
| 8-3 | SK-359001A | KNOB TAPE SELECT |
| 8-3B | SK-359001B | KNOB TAPE SELECT-B |
| 8-4 | SB-358882 | BUTTON PUSH |
| 8-5 | SB-358886A | BUTTON OPERATION |
| 8-6 | BD-358994A | PANEL SIDE (L) |
| 8-6B | BD-358994B | PANEL SIDE(L)-B |
| 8-7 | BD-358995A | PANEL SIDE (R) |
| 8-7B | BD-358995B | PANEL SIDE(R)-B |
| 8-8 | BD-359000A | PANEL LID |
| 8-8B | BD-359000B | PANEL LID-B |
| 8-9 | ZS-359179 | PT BR30x12STL BNI C [J901 FIX] |
| 8-10 | ZS-359702 | S T BR26x06STL BNI [MECHA, BOTTOM COVER SIX] |
| 8-11 | BC-358993E | COVER D-1 |
| 8-11B | BC-358993J | COVER D-1B |

NOTE: SYMBOL FOR COLOR VARIATION
 NON : STANDARD COLOR
 B or BL : BLACK

VI. MODEL HX-A300W

RECOMMENDED SPARE PARTS

Because, if the parts listed below are on hand, almost any repair can be accomplished, we suggest that you stock these Recommended Spare Parts Items.

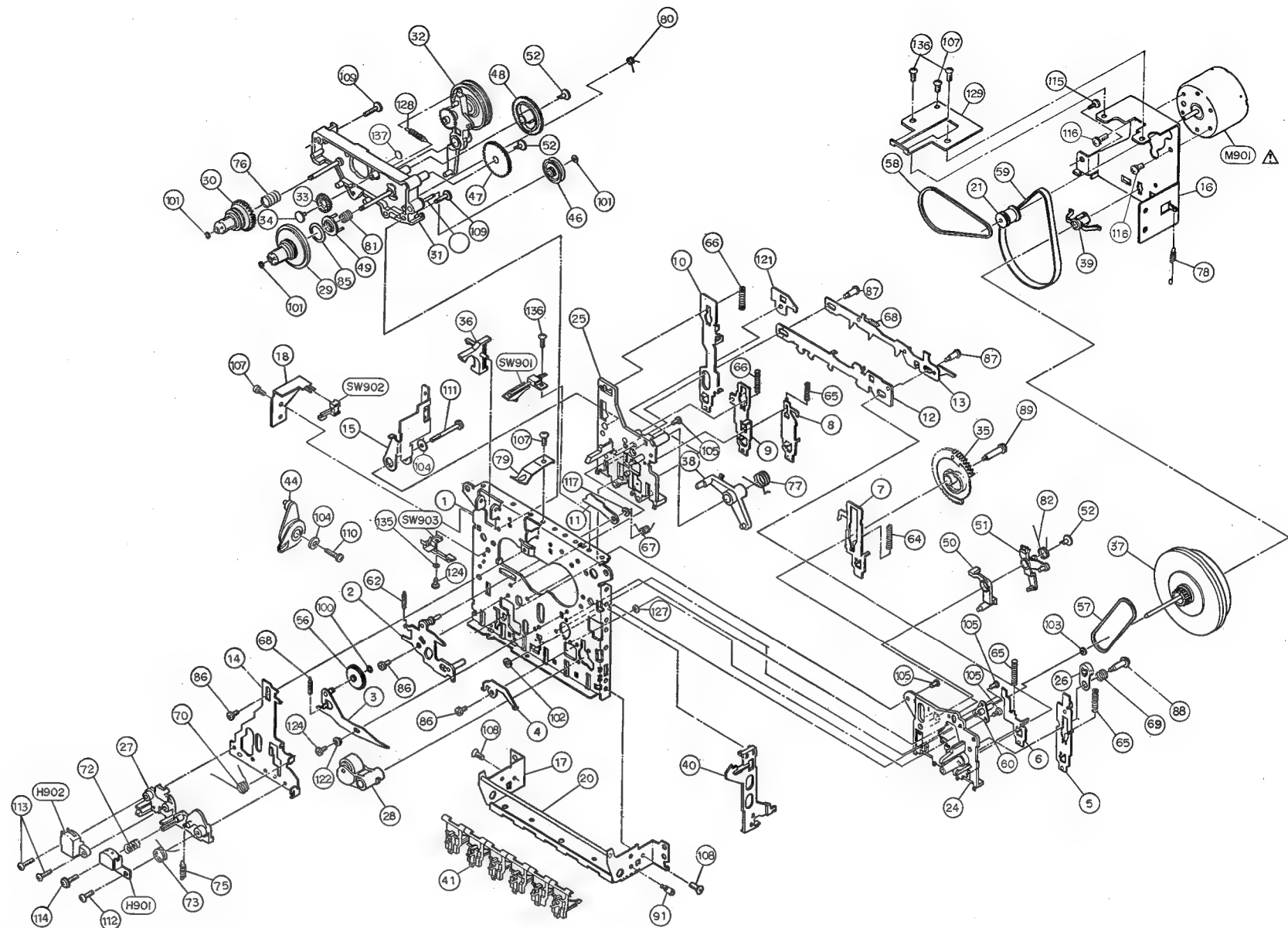
| REF. NO. | PART NO. | DESCRIPTION |
|-------------|-----------|--|
| 1 | BM-712825 | △ MOTOR (W/PULLEY) ASSY EG-500 AD-2 |
| 2 | BR-715919 | SUPPLY REEL ASSY |
| 3 | BR-715918 | TAKE-UP REEL ASSY |
| 4 | ED-357691 | D LED GL-9HY23 YELLOW |
| 5 N | ED-358085 | D LED GL-9NG23 GRN |
| 6 | ED-351881 | D LED GL-9PR23 RED |
| 7 | ED-349662 | D SILICON DS135E-FA6 100/1.0A |
| 8 | ED-344280 | D SILICON H GMA-01-FY2 F05 |
| 9 | ED-324014 | D-ZENER H HZ11 B1 |
| 10 | ED-348014 | D ZENER V HZ4A-1S7 |
| 11 | EH-336776 | FILTER DB D07003K 100KHZ |
| 12 | EI-349590 | IC BA328OEC |
| 13 | EI-347634 | IC HA12045 |
| 14 N | EI-355388 | IC IR2E27 |
| 15 | EI-337228 | IC M5218L0 |
| 16 | EO-353311 | COIL OSC 32-5021-12 100KHZ |
| 17 | ER-318647 | △ R FUSE ERD2FC S10 1/4W 4R7J |
| 18 | ES-715945 | SW LEAF LSA-1119C |
| 19 | ES-715944 | SW LEAF LSA-1132EAU |
| 20 | ES-713179 | SW LSA-1123-37 |
| 21 | ES-347966 | SW PUSH ESB-649 01-2-2 N |
| 22 N | ES-358646 | SW PUSH SUL121S 1-012-02N |
| 23 N | ES-359242 | SW PUSH SUI12A 2-02-02S |
| 24 N | ES-358580 | SW SLIDE CL108K |
| 25 | ET-308472 | TR 2SA1115 E,F,G |
| 26 | ET-348931 | TR 2SB774 R,S,T |
| 27 | ET-308977 | TR 2SC2274K F |
| 28 | ET-349705 | TR 2SC2320 E,F,G |
| 29 | ET-349272 | TR 2SC3242A E,F |
| 30 | ET-349366 | TR 2SC3402 |
| 31 | EV-357619 | R S-FIX H H0615C 3P 104 |
| 32 N | EV-358829 | R S-FIX H H0615C 3P 223 |
| 33 N | EV-356581 | R S-FIX H0615C 3P 331 |
| 34 | EV-357689 | VR SLIDE 60P2SVOL A503 |
| 35 | HE-337047 | HEAD E HAJAB3040A C |
| 36 | HP-712824 | HEAD R/P HY424528 SVK |
| 37 | MB-712818 | BELT AUTO |
| 38 N | MB-355124 | BELT COUNTER |
| 39 | MB-712820 | BELT DRIVE |
| 40 | MB-712819 | BELT FR |
| 41 N | MC-358569 | COUNTER MMP 382-016 |
| 42 | MI-715935 | CLUTCH ARM ASSY |
| 43 | MI-712813 | GEAR AUTO |
| 44 | MI-711710 | GEAR C |
| 45 | MI-712814 | GEAR CAM AUTO |
| 46 | MI-712804 | GEAR FF |
| 47 | MI-712817 | IDLER PLAY |
| 48 | MI-712812 | PULLEY AUTO |
| 49 N | MZ-716577 | MAIN CASE ASSY |

“NOTE” N: New Parts

SYMBOL FOR DESTINATION

- [A]: AAL (USA)
- [B]: UK (England)
- [C]: CSA (Canada)
- [E]: CEE (Europe)
- [S]: SAA (Australia)
- [U]: U/T (Universal Area)
- [V]: VDE (West Germany)

MECHA (REC/PB) BLOCK



1. MECHA (REC/PB) BLOCK

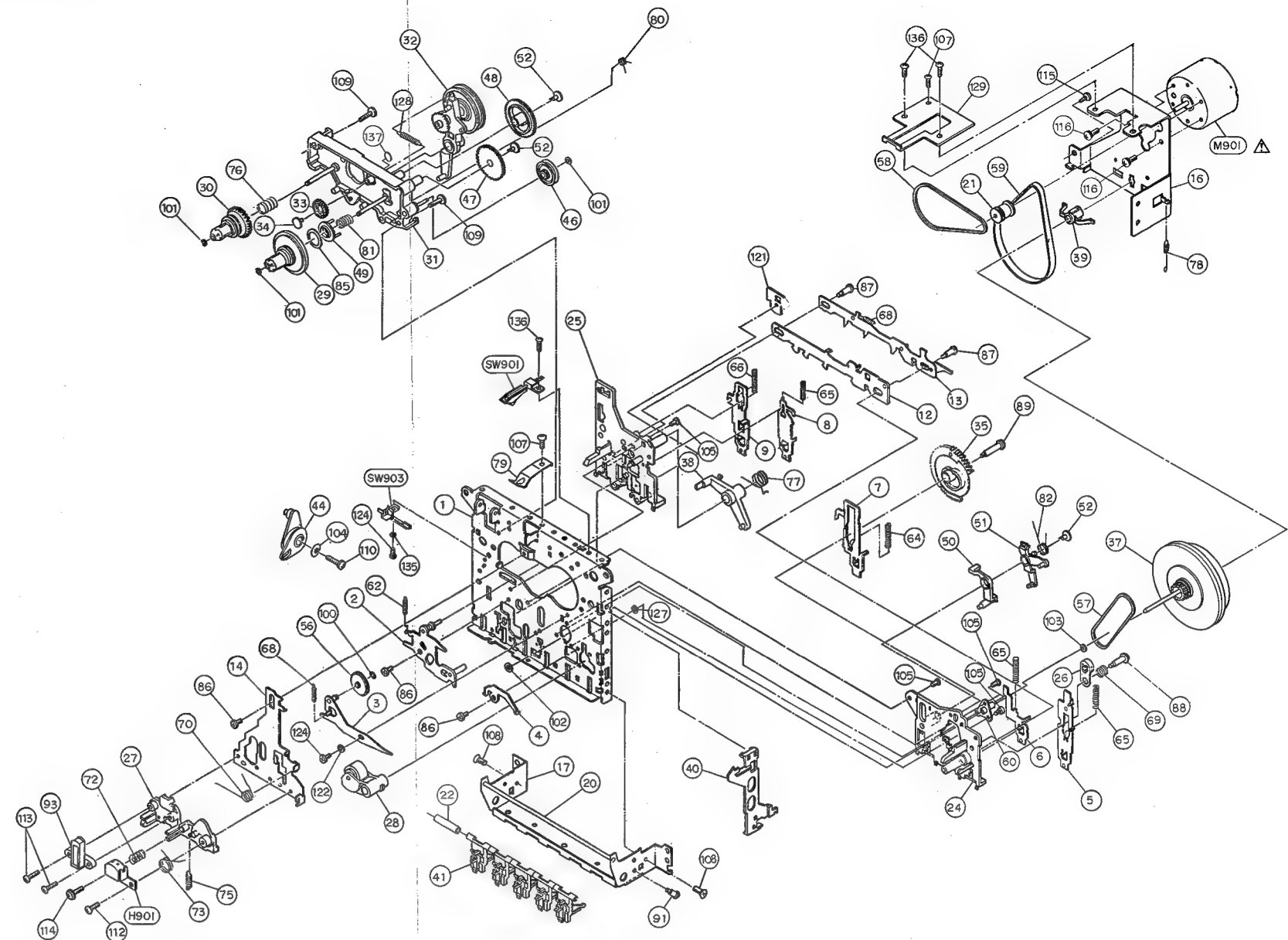
| REF. NO. | PART NO. | DESCRIPTION | REF. NO. | PART NO. | DESCRIPTION | REF. NO. | PART NO. | DESCRIPTION |
|----------|-----------|-----------------------|----------|-----------|-----------------|----------|-----------|-------------------------|
| 1-1 | BB-355186 | MECHA AKI-96FMF | 1-49 | MI-715920 | CLUTCH AUTO | 1-82 | ZG-716197 | SP AUTO LOCK ARM |
| 1-24 | ML-716375 | LEVER HOLDER (A) | 1-50 | ML-716179 | ARM AUTO(B) | 1-85 | TC-712823 | FELT AUTO CLUTCH |
| 1-26 | MZ-716171 | CAM PAUSE | 1-51 | ML-716180 | ARM AUTO LOCK | 1-87 | ZS-715982 | SCREW(B) |
| 1-27 | HZ-716172 | HEAD BASE | 1-52 | ZW-716181 | BUSH | 1-88 | ZS-716203 | SCREW SPECIAL (C) |
| 1-28 | BL-712799 | PINCH ROLLER ARM ASSY | 1-56 | MI-712817 | IDLER PLAY | 1-89 | ZS-716204 | SCREW SPECIAL (D) |
| 1-29 | BR-715918 | TAKE-UP REEL ASSY | 1-57 | MB-712818 | BELT AUTO | 1-91 | ZS-716580 | SCREW SPECIAL |
| 1-30 | BR-715919 | SUPPLY REEL ASSY | 1-58 | MB-712819 | BELT FR | 1-112 | ZS-536488 | BID20X08STL CMT |
| 1-32 | MI-715935 | C LUTCH ARM ASSY | 1-59 | MB-712820 | BELT DRIVE | 1-113 | ZS-749292 | BID20X8.5STL CMT |
| 1-33 | MI-712804 | GEAR FF | 1-60 | MZ-716577 | MAIN CASE ASSY | 1-114 | ZS-749293 | BID20X09STL CMT TW |
| 1-34 | MZ-749256 | BUSH | 1-67 | ZG-716187 | SP REC LEVER | 1-128 | ZG-715922 | SP CLUTCH ARM |
| 1-35 | MI-711710 | GEAR C | 1-68 | ZG-716188 | SP CAM | 1-M901 | BM-712825 | △ MOTOR (W/PULLEY) ASSY |
| 1-36 | ML-712806 | REC SENSOR | 1-69 | ZG-716189 | SP PAUSE CAM | | | EG-500AD-2B |
| 1-37 | BF-712807 | FLYWHEEL ASSY | 1-70 | ZG-716190 | SP HEAD CHASSIS | 1-SW901 | ES-715944 | SW LEAF LSA-1132EAU |
| 1-38 | ML-716175 | ARM LOCK (H) | 1-72 | ZG-749268 | SP HEAD | 1-SW902 | ES-713179 | SW LSA-1123-37 |
| 1-39 | MZ-712808 | HOLDER CAPSTAN | 1-73 | ZG-715921 | SP PINCH ROLLER | 1-SW903 | ES-715945 | SW LEAF LSA-1119C |
| 1-40 | ML-712809 | LEVER EJECT | 1-75 | ZG-715940 | SP HEAD RETURN | 1-H901 | HP-712824 | HEAD R/P HY424528 SVK |
| 1-41 | SB-716178 | BUTTON LEVER | 1-76 | ZG-716578 | SP BACK RENSION | 1-H902 | HE-337047 | HEAD E HAJAB3040A C |
| 1-44 | TC-712811 | DAMPER ASSY | 1-77 | ZG-716579 | SP LOCK ARM | | | |
| 1-46 | MI-712812 | PULLEY AUTO | 1-78 | ZG-716193 | SP EJECT LEVER | | | |
| 1-47 | MI-712813 | GEAR AUTO | 1-79 | ZG-712822 | SP PACK | | | |
| 1-48 | MI-712814 | GEAR CAM AUTO | 1-80 | ZG-716194 | SP AUTO SENSER | | | |
| | | | 1-81 | ZS-716355 | SP AUTO CLUTCH | | | |

PARTS LIST

Note:

Parts will not be supplied if they are not listed in the parts list, even if they appear on the assembling illustrations with reference No.

MECHA (PB) BLOCK



2. MECHA (PB) BLOCK

| REF. NO. | PART NO. | DESCRIPTION |
|----------|-----------|----------------------|
| 2-1 | BB-355187 | MECHA AKI-97FMF |
| 2-22 | MZ-716582 | COLLAR BUTTON |
| 2-24 | ML-716375 | LEVER HOLDER (A) |
| 2-26 | MZ-716171 | CAM PAUSE |
| 2-27 | MZ-716172 | HWAD BASE |
| 2-28 | BL-712799 | PINCH ROLLER AM ASSY |
| 2-29 | BR-715918 | TAKE-UP REEL ASSY |
| 2-30 | BR-715919 | SUPPLY REEL ASSY |
| 2-32 | MI-715935 | CLUTCH ARM ASSY |
| 2-33 | MI-712804 | GEAR FF |
| 2-34 | MZ-749256 | BUSH |
| 2-35 | MI-711710 | GEAR C |
| 2-37 | BF-712807 | FLYWEHEEL ASSY |
| 2-39 | MZ-712808 | HOLDER CAPTSTAN |
| 2-40 | ML-712809 | LEVER EJECT |
| 2-41 | SB-716178 | BUTTON LEVER |
| 2-44 | TC-712811 | DAMPER ASSY |
| 2-46 | MI-712812 | PULLEY AUTO |
| 2-47 | MI-712813 | GEAR AUTO |
| 2-48 | MI-712814 | GEAR CAM AUTO |
| 2-49 | MI-715920 | CLUTCH ATUO |

| REF. NO. | PART NO. | DESCRIPTION |
|----------|-----------|------------------|
| 2-50 | ML-716179 | ARM AUTO (B) |
| 2-51 | ML-716180 | ARM AUTO LOCK |
| 2-52 | ZW-716181 | BUSH |
| 2-56 | MI-712817 | IDLER PLAY |
| 2-57 | MB-712818 | BELT AUTO |
| 2-58 | MB-712819 | BELT FR |
| 2-59 | MB-712820 | BELT DRIVE |
| 2-60 | MZ-716577 | MAIN CASE ASSY |
| 2-68 | ZG-716188 | SP CAM |
| 2-69 | ZG-716189 | SP PAUSE CAM |
| 2-70 | ZG-716190 | SP HEAD CHASSIS |
| 2-72 | ZG-749268 | SP HEAD |
| 2-73 | ZG-715921 | SP PINCH ROLLER |
| 2-75 | ZG-715940 | SP HEAD RETURN |
| 2-76 | ZG-716578 | SP BACK TENSION |
| 2-77 | ZG-716579 | SP LOCK ARM |
| 2-78 | ZG-716193 | SP EJECT LEVER |
| 2-79 | ZG-712822 | SP PACK |
| 2-80 | ZG-716194 | SP AUTO SENSER |
| 2-81 | ZS-716355 | SP AUTO CLUTCH |
| 2-82 | ZG-716197 | SP AUTO LOCK ARM |

| REF. NO. | PART NO. | DESCRIPTION |
|----------|-----------|-------------------------------------|
| 2-85 | TC-712823 | FELT AUTO CLUTCH |
| 2-87 | ZS-715982 | S CREW (B) |
| 2-88 | ZS-716203 | SCREW SPECIAL (C) |
| 2-89 | ZS-716204 | SCREW SPECIAL (D) |
| 2-91 | ZS-716580 | SCREW SPECIAL |
| 2-93 | MS-715941 | TAPE GUIDE |
| 2-112 | ZS-536488 | BID20x08STL CMT |
| 2-113 | ZS-749292 | BID20x8.5STL CMT |
| 2-114 | ZS-749293 | BID20x09STL CMT TW |
| 2-118 | ZS-716576 | SCREW SPECIAL MOTOR |
| 2-128 | ZG-715922 | SP CLUTCH ARM |
| 2-M901 | BM-712825 | △ MOTOR (W/PULLEY) ASSY EG-500AD-2B |
| 2-SW901 | ES-715944 | SW LEAF LSA-1132EAU |
| 2-SW903 | ES-715945 | SW LEAF LSA-1119C |
| 2-H901 | HP-712824 | HEAD R/P HY424528 SVK |

Note:
Parts will not be supplied if they are not listed in the parts list, even if they appear on the assembling illustrations with reference No.

PARTS LIST

3. PC BOARD BLOCK

| REF. NO. | PART NO. | DESCRIPTION |
|----------|---------------|-------------------------|
| 3-1 | BA-T2086A020A | PC PRE AMP BLK HX-A300W |

4. PRE AMP PC BOARD

| REF. NO. | PART NO. | DESCRIPTION |
|------------------|-----------|-------------------------------|
| 4-IC3C1, IC302 | EI-349590 | IC BA3280EC |
| 4-IC303 | EI-337228 | IC M5218L0 |
| 4-IC304 | EI-347634 | IC HA12045 |
| 4-TR103 | EI-349705 | TR 2SC2320 E,F,G |
| 4-TR105 to TR107 | ET-349705 | TR 2SC2320 E,F,G |
| 4-TR111 to TR114 | ET-349705 | TR 2SC2320 E,F,G |
| 4-TR117 | ET-349705 | TR 2SC2320 E,F,G |
| 4-TR203 | ET-349705 | TR 2SC2320 E,F,G |
| 4-TR205 to TR207 | ET-349705 | TR 2SC2320 E,F,G |
| 4-TR211 to TR214 | ET-349705 | TR 2SC2320 E,F,G |
| 4-TR217 | ET-349705 | TR 2SC2320 E,F,G |
| 4-TR301, TR302 | ET-308977 | TR 2SC2274K F |
| 4-TR303 | ET-349705 | TR 2SC2320 E,F,G |
| 4-TR304 | ET-349272 | TR 2SC3242A E,F |
| 4-TR305 | ET-349366 | TR 2SC3402 |
| 4-TR306 | ET-349705 | TR 2SC2320 E,F,G |
| 4-TR308 | ET-349705 | TR 2SC2320 E,F,G |
| 4-TR309 | ET-348931 | TR 2SB774 R,S,T |
| 4-TR310 | ET-349705 | TR 2SC2320 E,F,G |
| 4-TR311 | ET-308472 | TR 2SA1115 E,F,G |
| 4-TR314 | ET-349705 | TR 2SC2320 E,F,G |
| 4-TR318 to TR320 | ET-349366 | TR 2SC3402 |
| 4-D303 | ED-324014 | D ZENER H HZ11 B1 |
| 4-D304 | ED-349662 | D SILICON DS135E-FA6 100/1.0A |
| 4-D305 to D308 | ED-344280 | D SILICON H GMA-01-FY2 F05 |
| 4-D310,D311 | ED-344280 | D SILICON H GMA-01-FY2 F05 |
| 4-D316 | ED-349662 | D SILICON DS135E-FA6 100/1.0A |
| 4-D317 to D319 | ED-344280 | D SILICON H GMA-01-FY2 F05 |
| 4-D320 | ED-348014 | D ZENER V HZ4A-1S7 |
| 4-D321, D322 | ED-344280 | D SILICON H GMA-01-FY2 F05 |
| 4-SW301 | ES-358580 | SW SLIDE CL108K |
| 4-VR101, VR102 | EV-356581 | R S-FIX H0615C 3P 331 |
| 4-VR103 | EV-358829 | R S-FIX H H06155C 3P 223 |
| 4-VR104 | EV-357619 | R S-FIX H H0615C 3P 104 |
| 4-VR201, VR202 | EV-356581 | R S-FIX H0615C 3P 331 |
| 4-VR203 | EV-358829 | R S-FIX H H0615C 3P 223 |
| 4-VR204 | EV-357619 | R S-FIX H H0615C 3P 104 |
| 4-FL101 | EH-336776 | FILTER DB D07003K 100KHZ |
| 4-FL102 | EO-356809 | COIL FIX 1 100Z-121 100.00KC |
| 4-FL201 | EH-336776 | FILTER DB D07003K 100KHZ |
| 4-FL202 | EO-356809 | COIL FIX 1 100Z-121 100.00KC |
| 4-L101, L201 | EO-348235 | COIL FIX1 L-8 682J |
| 4-T301 | EO-353311 | COIL OSC 32-5021-12 100KHZ |
| 4-FR301 | ER-318647 | △ R FUSE ERD2FC S10 1/4W 4R7J |
| 4-C102 | EC-334068 | C STY V F05 CQ09S 271J 50DC |
| 4-C110 | EC-334068 | C STY V F05 CQ09S 271J 50DC |
| 4-C146 | EC-347228 | C MC V F05 FM 470J 500DC |
| 4-C202 | EC-334068 | C STY V F05 CQ09S 271J 50DC |
| 4-C210 | EC-334068 | C STY V F05 CQ09S 271J 50DC |
| 4-C246 | EC-347228 | C MC V F05 FM 470J 500DC |
| 4-C309 | EC-345817 | C PP V F10 APH 272J 630DC |

5. METER PC BOARD

| REF. NO. | PART NO. | DESCRIPTION |
|-----------------------|-----------|-----------------------------|
| METER PC BOARD | | |
| 5-IC501 | EI-355388 | IC IR2E27 |
| 5-D502 | ED-351881 | D LED GL-9PR23 RED |
| 5-D503 | ED-357691 | D LED GL-9HY23 YELLOW |
| 5-D504 to D509 | ED-358085 | D LED GL-9NG23 GRN |
| 5-D510 to D513 | ED-351881 | D LED GL-9PR23 RED |
| 5-SW501 | ES-347966 | SW PUSH ESB-649 01-2-2 N |
| 5-VR501 | EV-357689 | VR SLIDE 60P2SVOL A503 |
| 5-R502, R503 | ER-333616 | R CB H S15 FS RDS 1/2W 151J |
| ASSEMBLY BLOCK | | |
| 5-D501 | ED-351881 | D LED GL-9PR23 RED |

6. DUBBING PC BOARD

| REF. NO. | PART NO. | DESCRIPTION |
|----------|-----------|-------------------------|
| 6-SW401 | ES-359242 | SW PUSH SUY12A 2-02-02S |

7. POWER SW PC BOARD

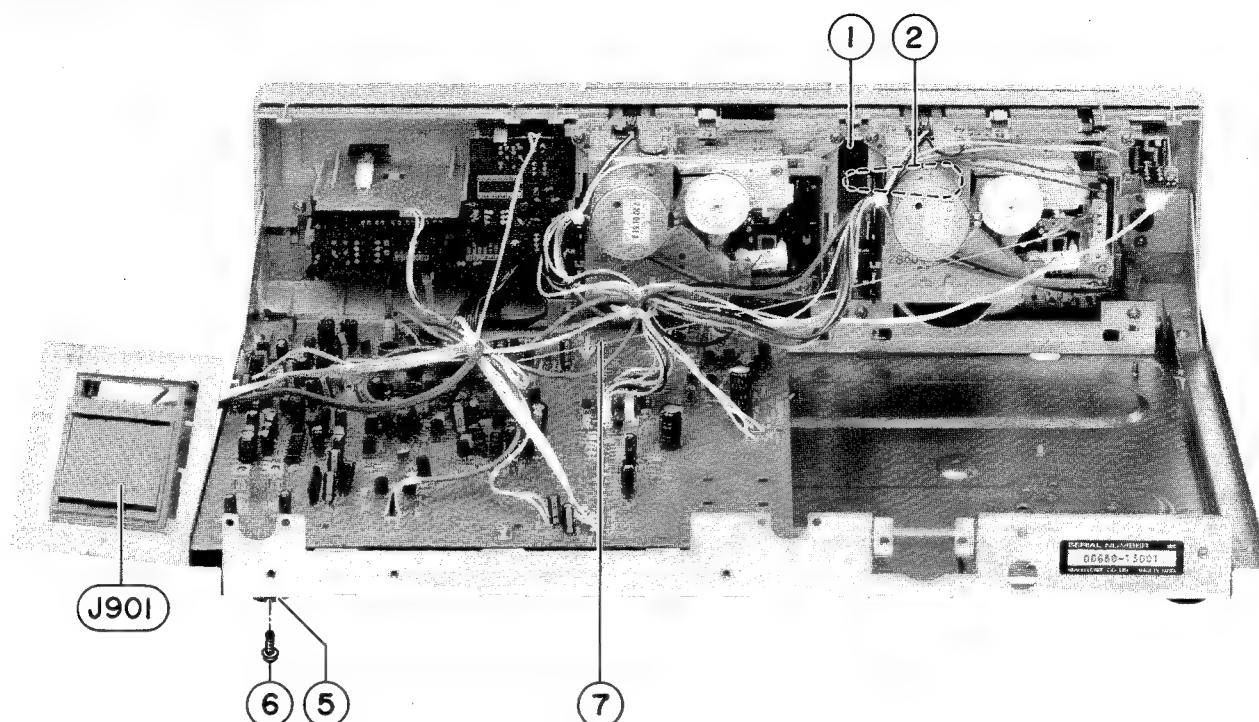
| REF. NO. | PART NO. | DESCRIPTION |
|----------|-----------|---------------------------|
| 7-SW601 | ES-358646 | SW PUSH SUL121S 1-012-02N |

NOTE:

PC PRE AMP BLK consists of following PC BOARDS.

- PRE AMP PC BOARD
- METER PC BOARD
- DUBBING PC BOARD
- POWER SW PC BOARD

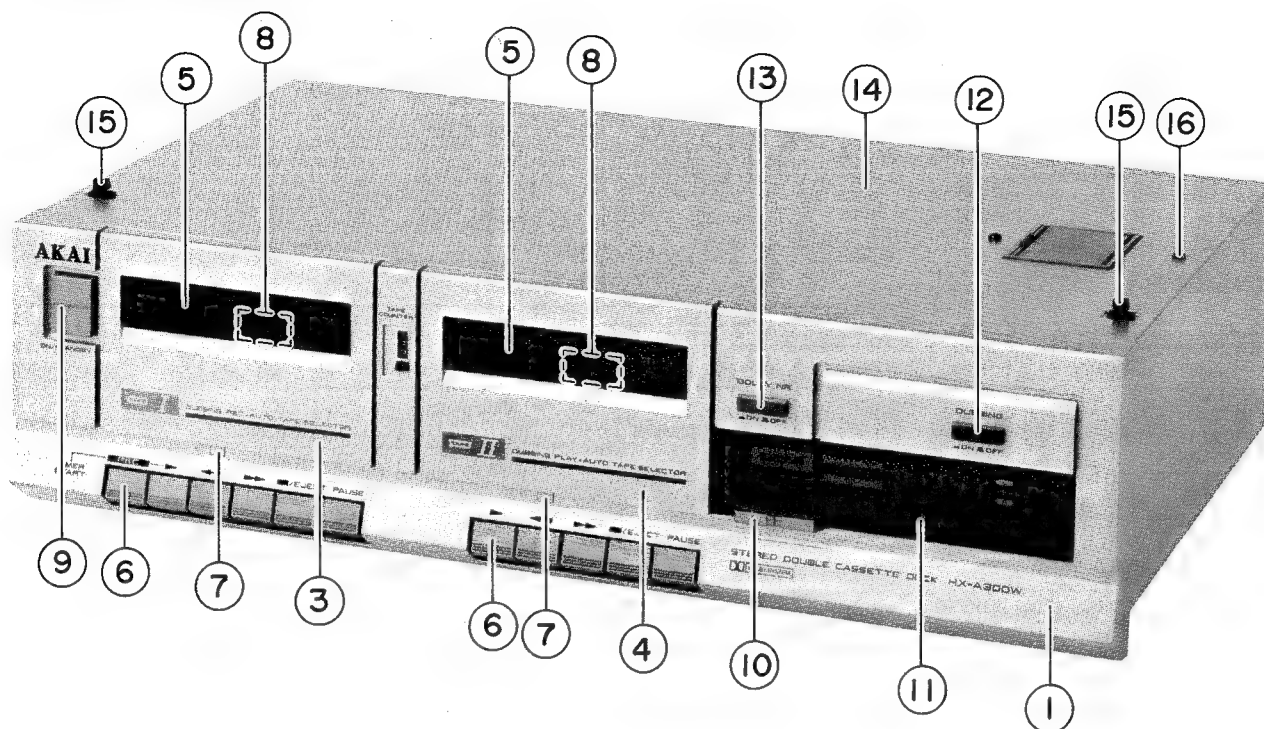
ASSEMBLY BLOCK



8. ASSEMBLY BLOCK

| REF. NO. | PART NO. | DESCRIPTION |
|-------------|------------|--|
| 8-1 | MC-358569 | COUNTER MMP382-016 |
| 8-2 | MB-355124 | BELT COUNTER |
| 8-3x | ZG-336615 | SP PLATE CASSETTE HOLDER (B) |
| 8-4x | ZG-360733 | SP TORSION LID |
| 8-5 | SA-202118 | FOOT |
| 8-6 | ZS-351186 | ST BR30X08STL CMT C080 |
| 8-7 | TC-355519 | JOINT REC (B) |
| 8-8x | SP-355163F | PANEL REAR HX-A300W |
| 8-9x | ZS-358803 | ST BR30X08STL BNI C080 [PANEL REAR FIX] |
| 8-10x | ZS-320906 | ST BR30X06STL CMT [COVER UPPER FIX] |
| 8-J901 | EJ-351021 | SOCKET CONNECTOR M1701 12P |
| 8-J901B | EJ-356521 | SOCKET CONNECTOR-B M1701-A 12P |

FINAL ASSEMBLY BLOCK



9. FINAL ASSEMBLY BLOCK

| REF. NO. | PART NO. | DESCRIPTION |
|----------|------------|------------------------------------|
| 9-1 | BD-355164C | PANEL FRONT HX-A300W |
| 9-1B | BD-355164D | PANEL FRONT HX-A300W-B |
| 9-2x | ZS-337783 | PT CTS30x08STL CMT [MECHA BLK FIX] |
| 9-3 | BD-355128E | LID (3) |
| 9-3B | BD-355128F | LID (3)-B |
| 9-4 | BD-355128G | LID (4) |
| 9-4B | BD-355128J | LID (5)-B |
| 9-5 | SP-355129 | WINDOW LID |
| 9-6 | SB-358886A | BUTTON OPERATION |
| 9-7 | BC-355156A | COVER AZIMUTH |
| 9-7B | BC-355156B | COVER AZIMUTH-B |
| 9-8 | SZ-357722 | REFLECTOR |
| 9-9 | SK-343017C | KNOB POWER (2) |
| 9-9B | SK-343017F | KNOB POWER-B |
| 9-10 | SK-355157A | KNOB REC |
| 9-10B | SK-355157B | KNOB REC-B |
| 9-11 | SP-355158 | WINDOW METER |
| 9-12 | SK-355159A | KNOB PUSH H [DUBBING] |
| 9-13 | SK-355159B | KNOB PUSH (2) [DOLBY NR] |
| 9-14 | SP-355161C | COVER UPPER (2) |
| 9-14B | SP-355161D | COVER UPPER (2)-B |
| 9-15 | SZ-359236 | CLIP 0816 |
| 9-16 | ZS-332009 | PT BR30x06ST |

SYMBOL FOR COLOR VARIATION

NON : STANDARD COLOR

B or BL : BLACK

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MODEL AP-A100/C

| PART NO. | REF. NO. | PART NO. | REF. NO. | PART NO. | REF. NO. | PART NO. | REF. NO. | PART NO. | REF. NO. |
|------------|----------|------------|----------|---------------|----------|------------|----------|-----------|----------|
| AX-332567C | 2-35 | EV-315416 | 1-VR1 | SA-332577C | 2-25 | TP-336361 | 2-28 | ZG-325402 | 2-6 |
| AX-332567D | 2-35B | EW-358749 | 2-32A | SK-345362A | 2-8 | TP-336362 | 2-28B | ZG-332548 | 2-17 |
| BC-B332582 | 2-26 | EW-358750 | 2-32B | SK-345362E | 2-8B | TP-345341 | 2-7 | ZG-353257 | 2-4 |
| BC-358036A | 2-1 | EW-358754 | 2-33 | SK-351613B | 2-34 | TP-348266A | 2-30A | ZS-350767 | 2-16 |
| BC-358036B | 2-1B | MB-345351B | 2-15 | SK-351739 | 2-12 | TP-348266B | 2-30B | ZS-358930 | 2-9 |
| BM-354988 | 2-M901 | MB-355119 | 2-31 | TP-B332568X2 | 2-18 | TP-348321 | 2-29 | ZW-270101 | 2-23 |
| EI-357879 | 1-IC1 | ML-345348 | 2-21 | TP-B345367 | 2-19 | TP-351625 | 2-3 | ZW-340648 | 2-5 |
| ES-316432 | 2-SW901 | ML-358006 | 2-13 | TP-P1034A040A | 2-10 | TP-358836 | 2-2 | | |
| ES-358768 | 1-SW1 | MV-269965 | 2-20 | TP-P1034A080A | 2-22 | ZG-313073 | 2-24 | | |
| EV-315416 | 1-VR2 | MZ-358034 | 2-14 | TP-301300 | 2-27 | ZG-313181 | 2-11 | | |

MODEL AP-A200

| PART NO. | REF. NO. | PART NO. | REF. NO. | PART NO. | REF. NO. | PART NO. | REF. NO. | PART NO. | REF. NO. |
|---------------|----------|------------|----------|---------------|----------|-----------|----------|----------|----------|
| AX-332567C | 4-30xA | ET-328844 | 1-Q1 | SK-358011A | 4-33 | ZG-358951 | 4-3 | | |
| AX-332567D | 4-30xB | ET-328844 | 1-Q2 | SK-358011B | 4-33B | ZG-358952 | 4-34 | | |
| BC-B353247 | 4-37 | ET-330225 | 1-Q10 | SP-359109 | 4-35 | ZS-310984 | 4-12 | | |
| BC-353231F | 4-1B | ET-330225 | 1-Q7 | TP-B332568X2 | 4-21 | ZS-332009 | 4-36 | | |
| BD-P1047A020A | 4-31 | ET-330225 | 1-Q8 | TP-B358014 | 4-39 | ZS-349118 | 4-19 | | |
| BD-P1047A020B | 4-31B | ET-742510 | 1-Q11 | TP-P1034A080A | 4-25 | ZS-358930 | 4-10 | | |
| BD-353231D | 4-1 | ET-742510 | 1-Q4 | TP-P1037A040A | 4-9 | ZW-290283 | 4-26 | | |
| BM-360085 | 4-M901 | ET-742510 | 1-Q3 | TP-348266A | 4-40B | ZW-325521 | 4-8 | | |
| ED-337391 | 3-D1 | EV-780138 | 1-VR1 | TP-348266B | 4-40A | ZW-331536 | 4-14 | | |
| ED-349656 | 3-D2 | EW-358749 | 4-42B | TP-353252 | 4-7 | ZW-340648 | 4-6 | | |
| ED-557447 | 2-D1 | EW-358750 | 4-42A | TP-353712 | 4-18 | ZW-340648 | 4-11 | | |
| ED-557447 | 2-D2 | EW-358754 | 4-41 | TP-358003 | 4-16 | ZW-382083 | 4-15 | | |
| ED-708712 | 1-D1 | MB-343057 | 4-38 | TP-358012A | 4-29 | | | | |
| EI-780137 | 1-IC1 | ML-345348 | 4-24 | TP-358012B | 4-29B | | | | |
| ER-353877 | 1-R1 | ML-358006 | 4-17 | TP-358836 | 4-2 | | | | |
| ES-325488 | 4-SW901 | MS-353238 | 4-4 | TP-360072 | 4-22 | | | | |
| ES-337843 | 2-SW1 | MV-269965 | 4-23 | ZG-313073 | 4-27 | | | | |
| ET-308867 | 1-Q5 | SA-332577 | 4-28 | ZG-332548 | 4-20 | | | | |
| ET-308867 | 1-Q9 | SK-358010A | 4-32 | ZG-353257 | 4-5 | | | | |
| ET-308867 | 1-Q6 | SK-358010B | 4-32B | ZG-358000 | 4-13 | | | | |

MODEL AT-A200/L

| PART NO. | REF. NO. | PART NO. | REF. NO. | PART NO. | REF. NO. | PART NO. | REF. NO. | PART NO. | REF. NO. |
|--------------------|----------|-----------|----------|-----------|----------|------------|----------|----------|----------|
| BA-A3052A020A 1-3A | | ED-301911 | 4-D9 | EM-353670 | 4-IN1 | ET-337759 | 2-TR2 | | |
| BA-A3052A020B 1-3B | | ED-301911 | 4-D10 | EO-336829 | 2-T3 | ET-338410 | 2-TR4 | | |
| BA-A3052A020C 1-3C | | ED-301911 | 4-D12 | EO-337523 | 2-L1 | ET-338410 | 2-TR6 | | |
| BA-A3052A020D 1-3D | | ED-301911 | 4-D13 | EO-337523 | 2-L2 | ET-349081 | 2-TR20 | | |
| BA-A3052A020E 1-3E | | ED-301911 | 4-D14 | EO-337598 | 2-T1 | ET-349081 | 2-TR21 | | |
| BA-A3052A020F 1-3F | | ED-301911 | 4-D1 | EO-337599 | 2-T2 | ET-349081 | 2-TR3 | | |
| BA-A3052A030A 1-1A | | ED-301911 | 4-D3 | EO-337640 | 3-T1 | ET-349081 | 2-TR18 | | |
| BA-A3052A030B 1-1B | | ED-301911 | 4-D2 | EO-349461 | 3-L1 | ET-349081 | 2-TR17 | | |
| BA-A3052A030C 1-1C | | ED-301911 | 4-D4 | EO-349461 | 3-L3 | ET-349081 | 2-TR19 | | |
| BA-A3052A030D 1-1D | | ED-301911 | 4-D5 | EO-349462 | 3-L4 | ET-351853 | 2-TR13 | | |
| BA-A3052A030E 1-1E | | ED-306316 | 2-D1 | EO-349462 | 3-L2 | ET-351853 | 2-TR11 | | |
| BA-A3052A030G 1-1G | | ED-321269 | 4-D15 | EO-349462 | 3-L5 | ET-351853 | 3-TR4 | | |
| BA-A3052A030F 1-1F | | ED-337265 | 2-D7 | EO-353687 | 3-L7A | ET-351853 | 3-TR1 | | |
| BA-F0141A010A 1-2A | | ED-344280 | 2-D4 | EO-356732 | 2-T6 | ET-352408 | 2-TR5 | | |
| BA-F0141A010B 1-2B | | ED-344280 | 2-D5 | EO-359056 | 3-L6 | ET-353366 | 2-TR16 | | |
| BA-F0141A010C 1-2C | | ED-344280 | 2-D6 | EO-359062 | 2-T4 | ET-353366 | 2-TR15 | | |
| BC-358993A 8-5 | | ED-344280 | 2-D11 | EO-359063 | 2-T5 | ET-353898 | 2-TR7 | | |
| BC-358993G 8-5B | | ED-344280 | 4-D8 | EO-361840 | 3-L7B | ET-353898 | 2-TR10 | | |
| BD-A3052A050A 8-1A | | ED-344280 | 4-D11 | ER-306805 | 2-R6 | ET-353898 | 2-TR23 | | |
| BD-A3052A050B 8-1B | | ED-349448 | 3-D1 | ER-327710 | 2-R7 | ET-353898 | 2-TR14 | | |
| BD-A3052A050C 8-1C | | ED-349448 | 3-D2 | ER-328067 | 2-R64 | ET-353898 | 2-TR22 | | |
| BD-A3052A050D 8-1D | | ED-349448 | 3-D3 | ER-360146 | 2-R47 | ET-353899 | 2-TR8 | | |
| BD-388978A 8-3 | | ED-349448 | 3-D4 | ER-360146 | 2-R8 | ET-353899 | 2-TR9 | | |
| BD-358978B 8-3B | | ED-349460 | 2-D2 | ES-344445 | 2-SW1 | ET-353899 | 4-TR1 | | |
| BD-358979A 8-4 | | ED-349460 | 2-D3 | ES-349367 | 4-SW10 | EV-356577 | 2-VR1 | | |
| BD-358979B 8-4B | | EE-359265 | 7-5 | ES-349367 | 4-SW1 | EV-356579 | 2-VR2 | | |
| EC-344483 2-C51 | | EH-336804 | 2-FL3 | ES-349367 | 4-SW3 | EW-359171 | 7-7 | | |
| EC-346879 2-C18 | | EH-355382 | 2-FL4 | ES-349367 | 4-SW7 | SK-343017C | 8-2 | | |
| EC-347591 2-C7 | | EH-355568 | 2-FL1 | ES-349367 | 4-SW9 | SK-343017F | 8-2B | | |
| EC-353044 2-C17B | | EH-355568 | 2-FL2 | ES-349367 | 4-SW2 | SP-358980A | 7-1A | | |
| EC-356597 2-C17A | | EH-359049 | 4-IB1 | ES-349367 | 4-SW8 | SP-358980B | 7-1B | | |
| EC-356598 2-C62 | | EI-344422 | 2-X1 | ES-349367 | 4-SW6 | SP-358980E | 7-1C | | |
| EC-356598 2-C63 | | EI-348409 | 4-X1 | ES-349367 | 4-SW5 | SZ-332739 | 7-2 | | |
| EC-359065 2-VC2 | | EI-354951 | 2-IC1 | ES-349367 | 4-SW4 | ZS-359179 | 7-3 | | |
| EC-359065 2-VC1 | | EI-359048 | 4-IC1 | ES-359172 | 5-SW11 | ES-359226 | 7-4 | | |
| ED-301911 2-D8 | | EI-359060 | 2-IC2 | ET-360115 | 2-SW2 | | | | |
| ED-301911 2-D9 | | EI-359061 | 2-IC3 | ET-328265 | 2-TR1 | | | | |
| ED-301911 2-D10 | | EJ-352118 | 7-6x | ET-328265 | 2-TR12 | | | | |
| ED-301911 4-D6 | | EJ-356522 | 6-P1 | ET-328265 | 3-TR3 | | | | |
| ED-301911 4-D7 | | EJ-359031 | 2-TM1 | ET-336869 | 3-TR2 | | | | |

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|---------------------|----------|-----------|----------|-----------|----------|--------------|----------|----------|----------|
| BA-A2043A020A 1-2A | | ED-337391 | 6-D7 | EJ-356522 | 9-P901 | ET-353899 | 4-TR105 | | |
| BA-A2043A020B 1-2B | | ED-337391 | 6-D8 | EJ-359067 | 2-J2 | ET-355216 | 2-TR1 | | |
| BA-A2043A020C 1-2C | | ED-346603 | 2-D3 | EJ-359178 | 2-P1 | ET-360137 | 4-TR106 | | |
| BA-A2043A040A 1-1A | | ED-346603 | 2-D4 | EJ-359222 | 5-J201 | ET-360137 | 4-TR107 | | |
| BA-A2043A040B 1-1B | | ED-346616 | 4-D105 | EO-318635 | 2-L1 | EV-359083 | 3-VR1 | | |
| BC-358993C 11-10 | | ED-346617 | 4-D106 | EO-337880 | 4-L101 | EV-359219 | 3-VR2 | | |
| BC-358993H 11-10B | | ED-348200 | 4-D112 | EO-338409 | 5-L201 | EV-359219 | 3-VR3 | | |
| BD-A2043A050A 11-1 | | ED-357754 | 2-D1 | EO-342936 | 5-L202 | EV-359219 | 3-VR4 | | |
| BD-A2043A050B 11-1B | | ED-357754 | 2-D9 | EO-342936 | 5-L203 | EV-359219 | 3-VR5 | | |
| BD-358994A 11-7 | | EF-306952 | 4-F6A | ER-200595 | 4-FR2 | EV-359219 | 3-VR6 | | |
| BD-358994B 11-7B | | EF-306952 | 4-F7A | ER-200595 | 4-FR1 | EV-359219 | 3-VR7 | | |
| BD-358995A 11-8 | | EF-306957 | 4-F3A | ER-322591 | 4-R121 | EV-359219 | 3-VR8 | | |
| BD-358995B 11-8B | | EF-306957 | 4-F4A | ER-322591 | 4-R122 | EV-359219 | 3-VR9 | | |
| BT-359193 10-T901A | | EF-306957 | 4-F6B | ER-324480 | 4-R107 | EV-359219 | 3-VR10 | | |
| BT-359194 10-T901B | | EF-306957 | 4-F7B | ER-324480 | 4-R108 | EV-359220 | 7-VR11 | | |
| BT-359195 10-T901C | | EF-308847 | 4-F5A | ER-356573 | 5-R201 | EW-359076 | 10-3A | | |
| BT-359196 10-T901D | | EF-311839 | 5-F1A | ER-359268 | 5-R202 | EW-359077 | 10-3B | | |
| BT-359197 10-T901E | | EF-311839 | 5-F2 | ER-359269 | 4-R116 | EW-359078 | 10-3C | | |
| EC-314688 5-C201B | | EF-323080 | 5-F1B | ER-359351 | 4-R112 | EW-359079 | 10-3D | | |
| EC-320548 5-C201A | | EF-359007 | 4-F5C | ER-359351 | 4-R111 | EW-359081 | 10-3F | | |
| EC-323846 4-C114 | | EF-359007 | 5-F1D | ES-337902 | 5-SW201 | EW-359204 | 10-3E | | |
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MODEL HX-A300W

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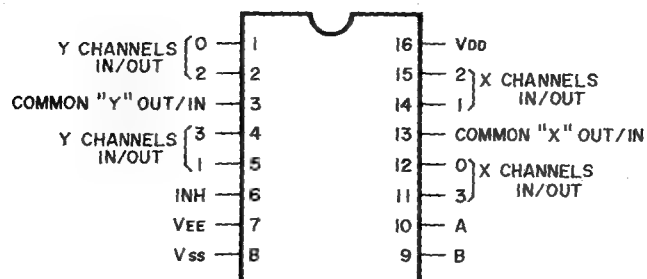
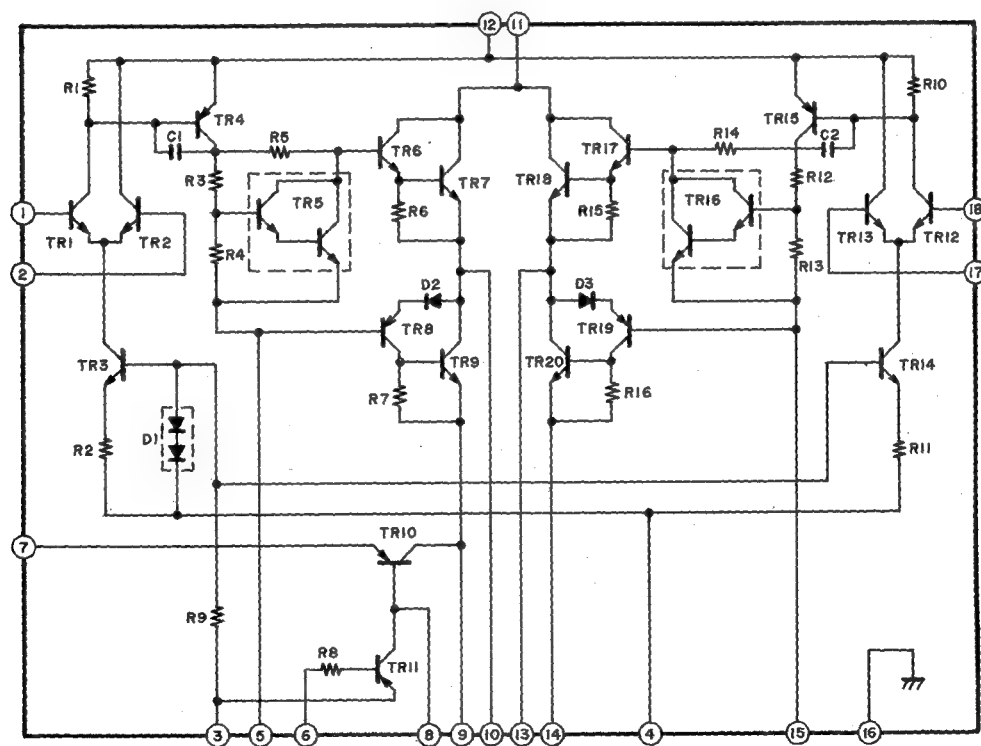
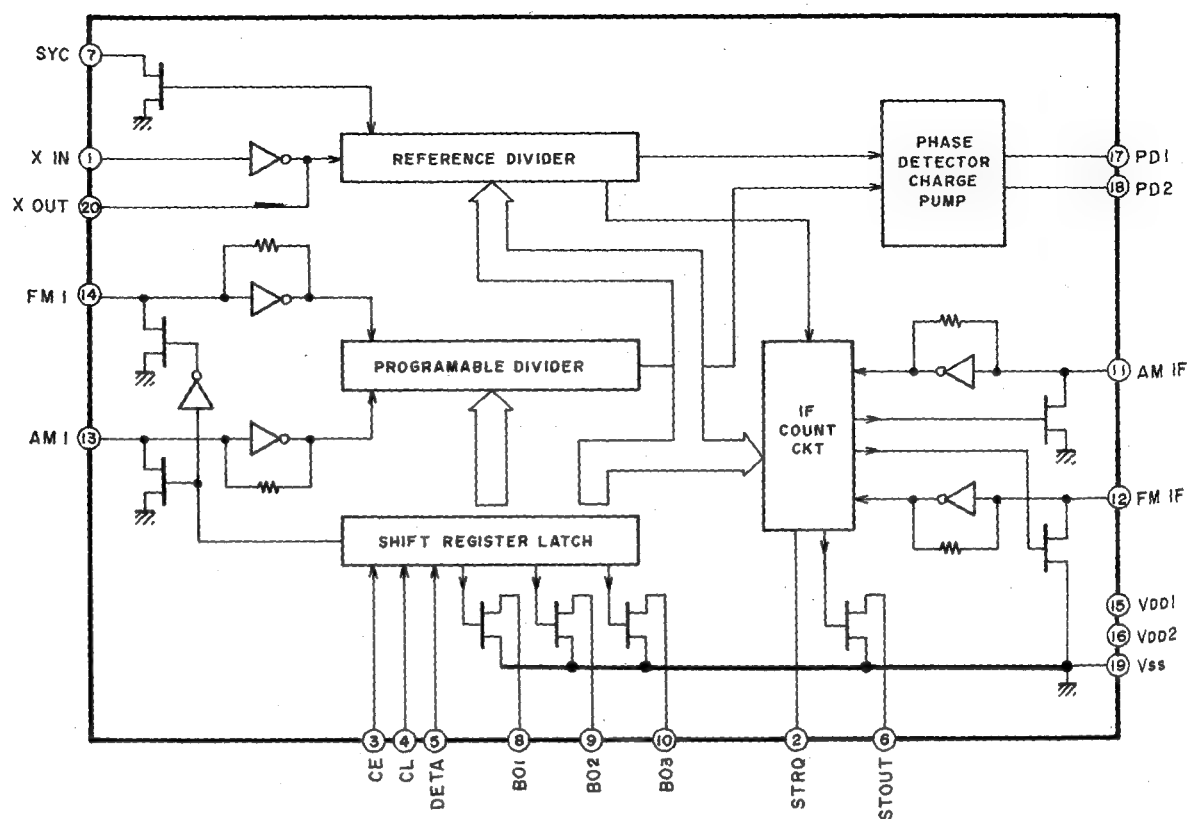
PRO-A200D/A200WD

MODEL AP-A100/C, AP-A200/C, AT-A200/L,
AM-A200, HX-A200, HX-A300W

SCHEMATIC DIAGRAM AND PC BOARD

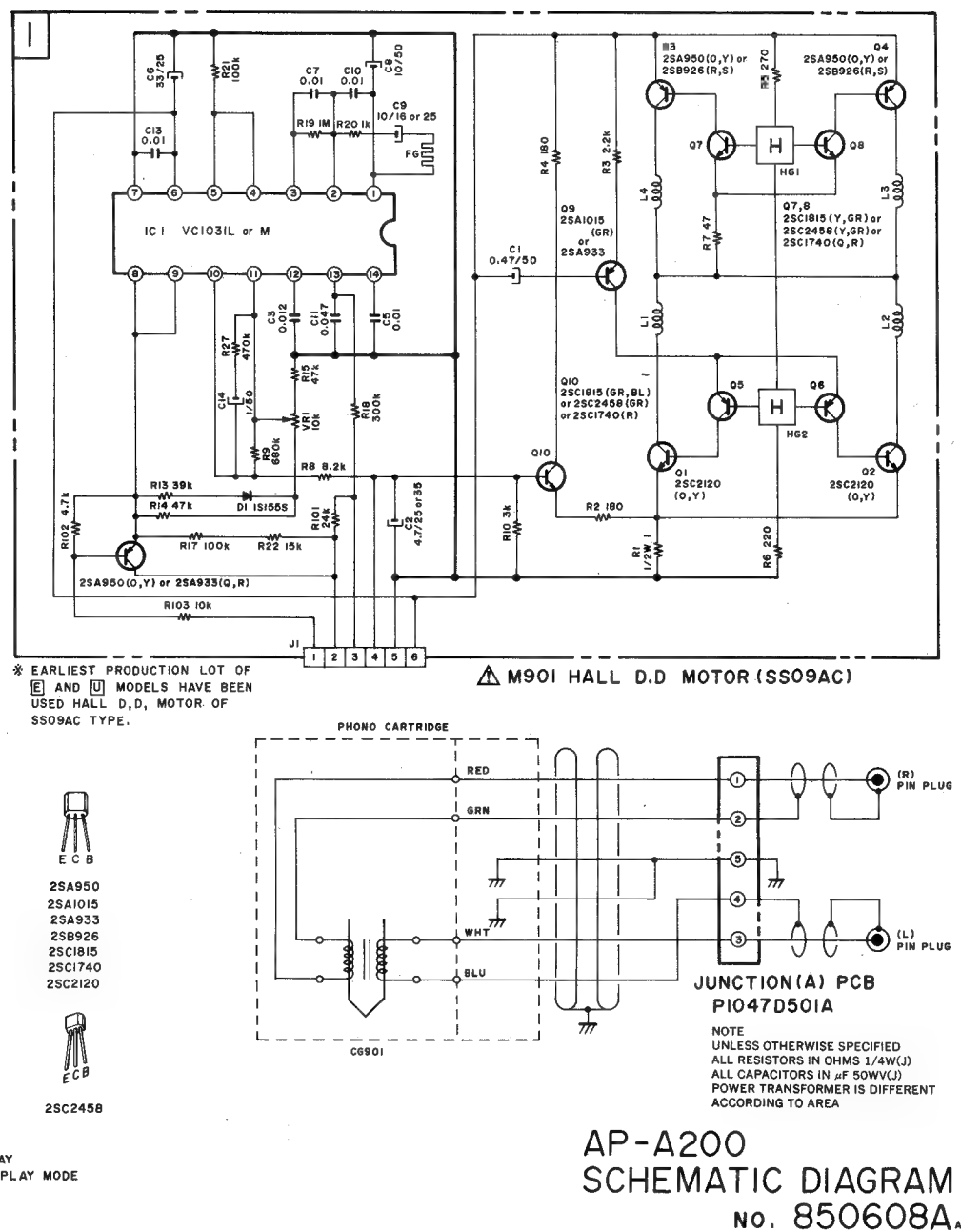
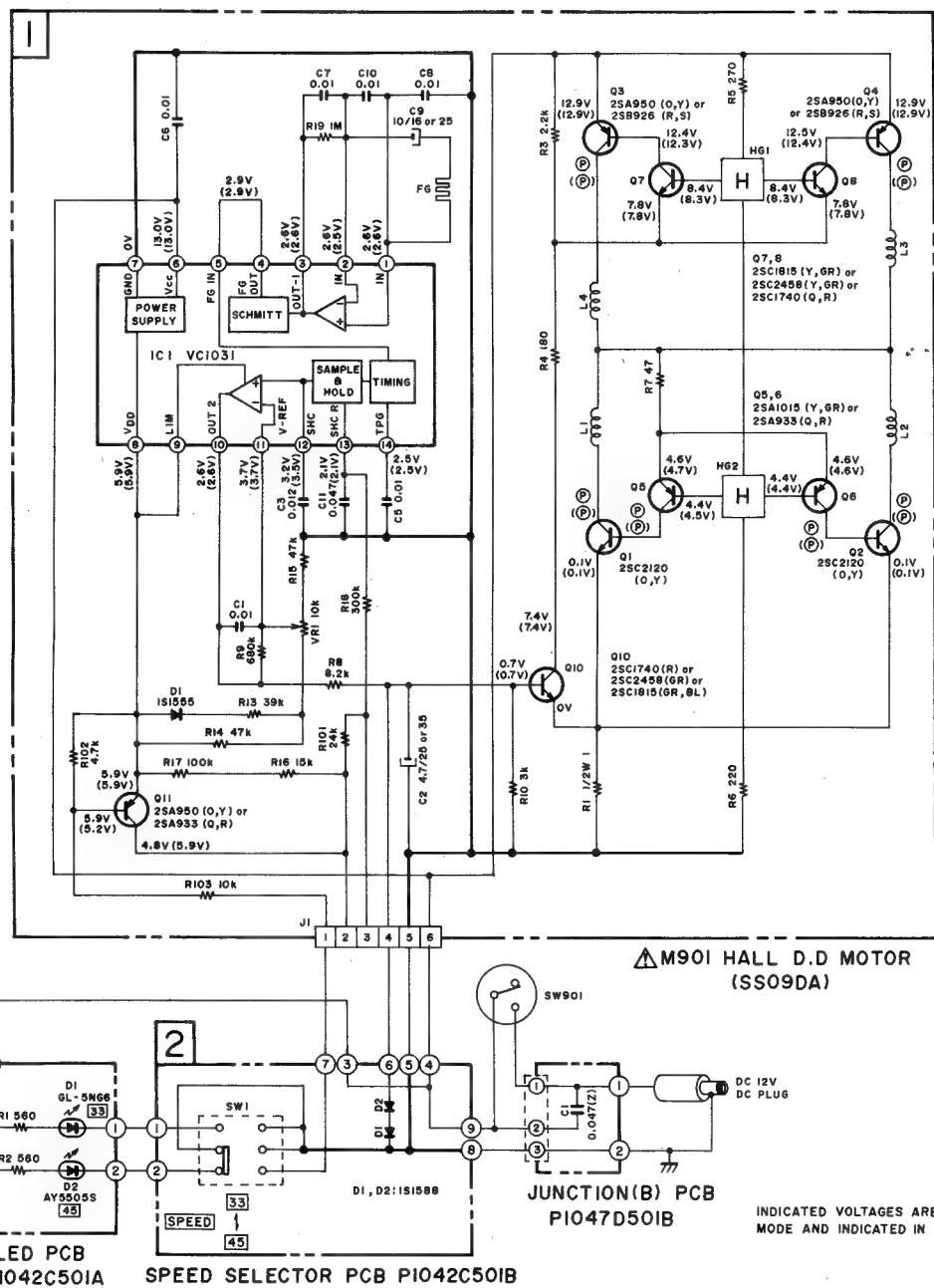
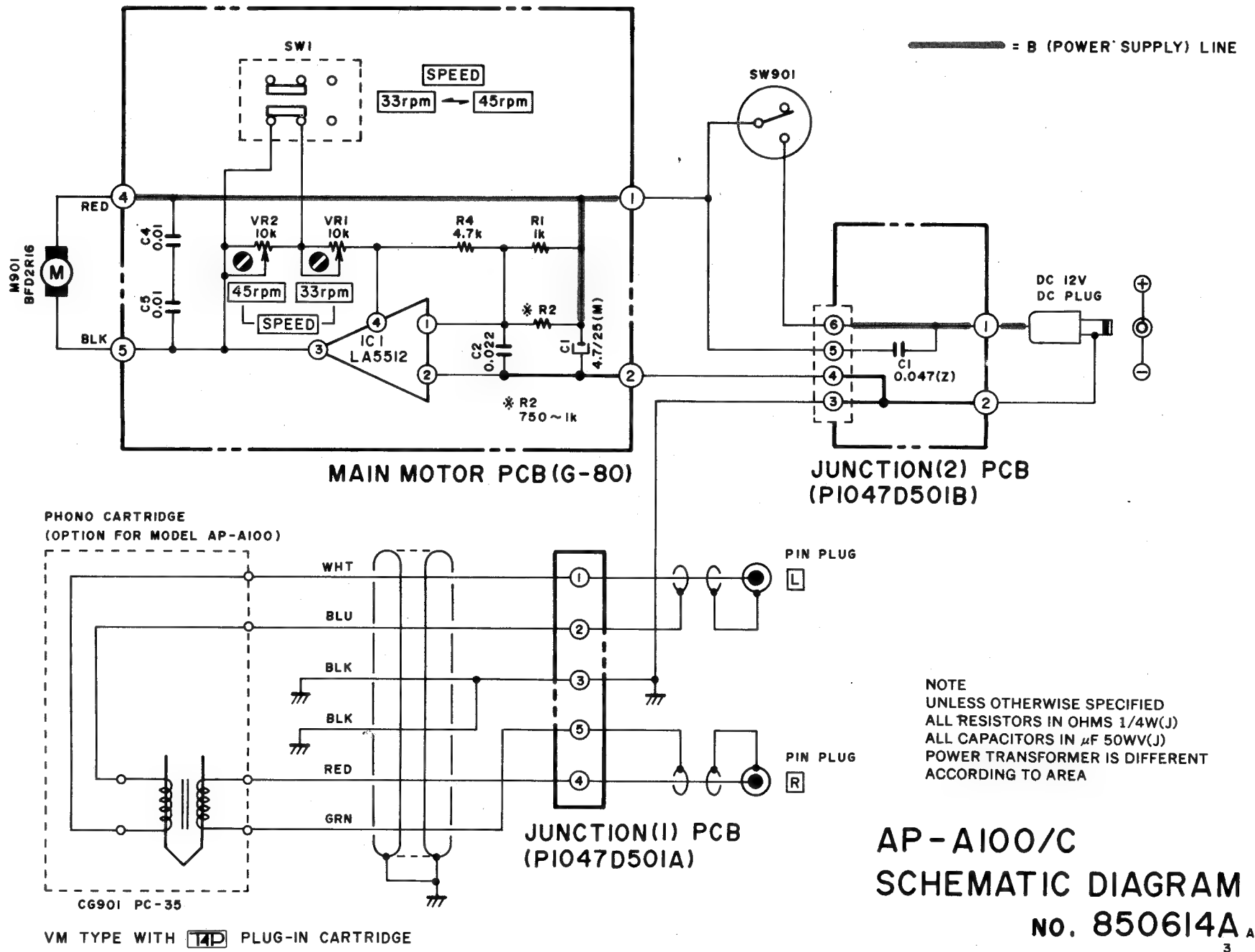
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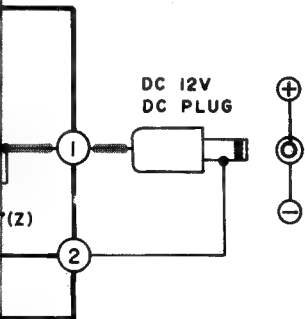


| INHIBIT (6) | A (10) | B (9) | "ON" CHANNEL |
|----------------|-----------|----------|--------------|
| L | L | L | 0X, 0Y |
| L | H | L | 1X, 1Y |
| L | L | H | 2X, 2Y |
| L | H | H | 3X, 3Y |
| H | X | X | NONE |

X=DON'T CARE



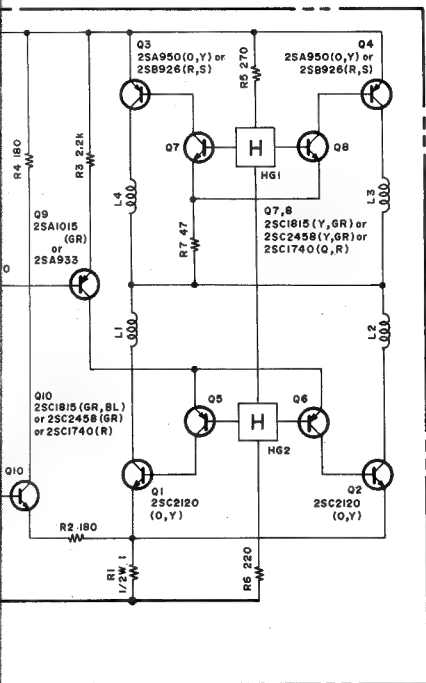
= B (POWER SUPPLY) LINE



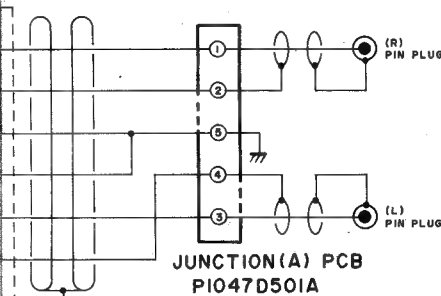
(2) PCB
PI047D501B

NOTE
UNLESS OTHERWISE SPECIFIED
ALL RESISTORS IN OHMS 1/4W(J)
ALL CAPACITORS IN μ F 50WV(J)
POWER TRANSFORMER IS DIFFERENT
ACCORDING TO AREA

AP100/C SCHEMATIC DIAGRAM No. 850614A_{A4}



901 HALL D.D. MOTOR (SS09AC)



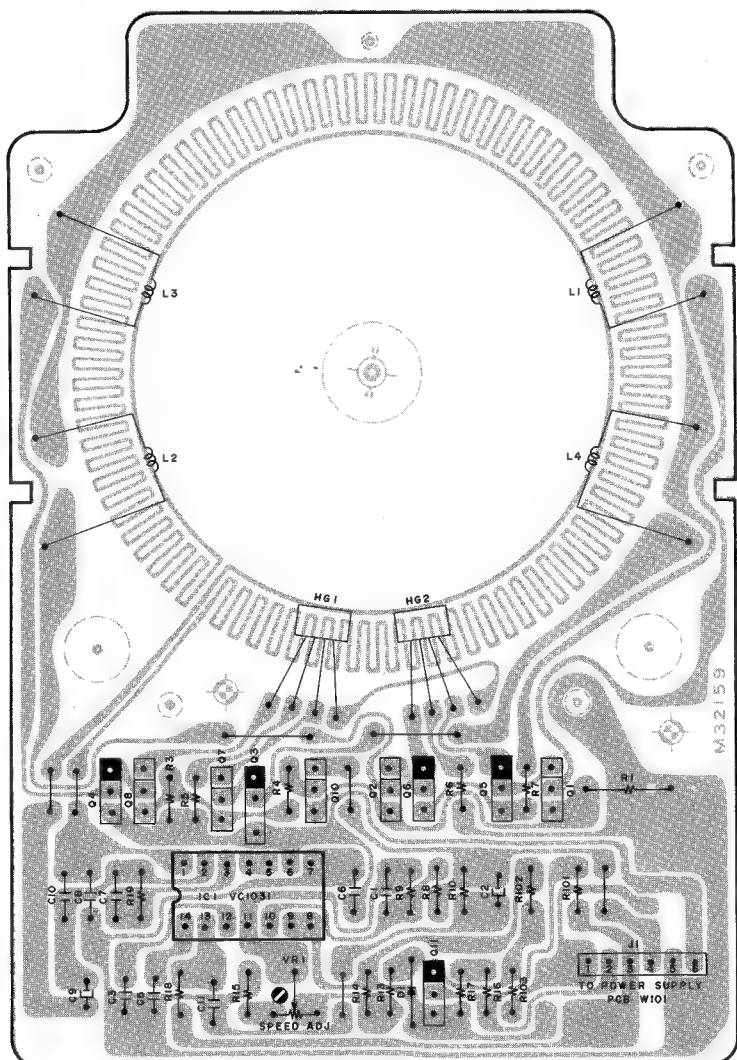
JUNCTION (A) PCB
PI047D501A

NOTE
UNLESS OTHERWISE SPECIFIED
ALL RESISTORS IN OHMS 1/4W(J)
ALL CAPACITORS IN μ F 50WV(J)
POWER TRANSFORMER IS DIFFERENT
ACCORDING TO AREA

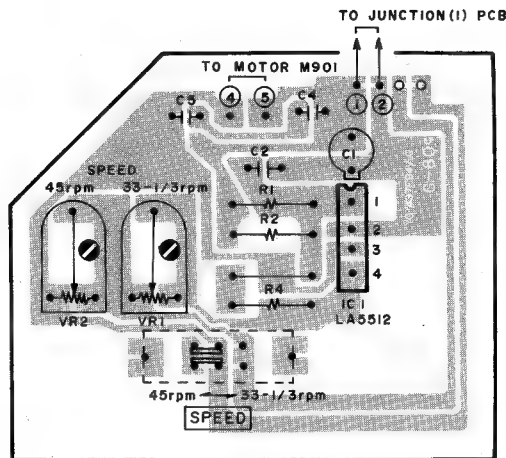
AP-A200 SCHEMATIC DIAGRAM No. 850608A_{A2}

Q1,2 ---- 2SC2120(O,Y)
Q3,4 ---- 2SA950(O,Y) or 2SB926(R,S)
Q5,6 ---- 2SA1015 (Y,GR) or 2SA933(O,R)
Q7,8,10 --- 2SC1815(Y,GR) or 2SC2458(Y,GR) or
or 2SC1740(Q,R)
Q11 ---- 2SA950(O,Y) or 2SA933(Q,R)

• = NPN TRANSISTOR
• = PNP TRANSISTOR

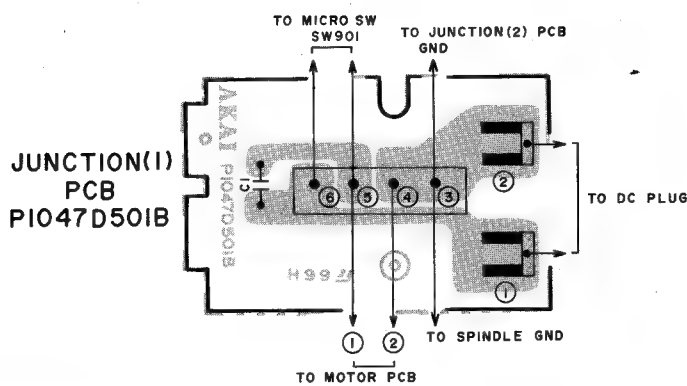
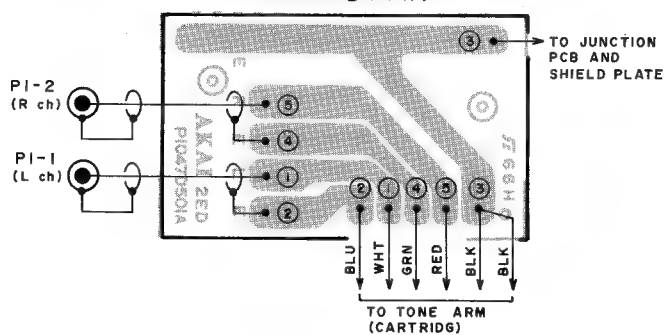


HALL D.D. MOTOR M901 SS09DA

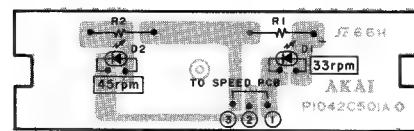


MOTOR PCB

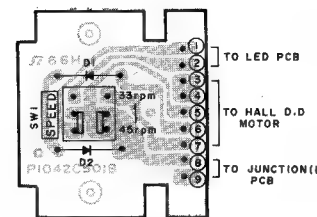
JUNCTION (2) PCB
PI047D501A



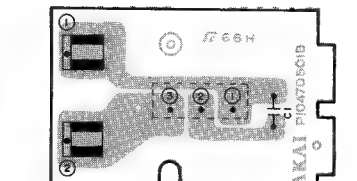
JUNCTION (1)
PCB
PI047D501B



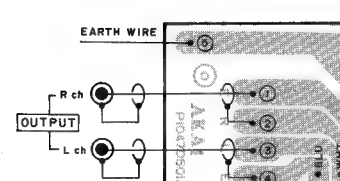
LED PCB PI042C501A



SPEED SELECTOR PCB
PI042C501B



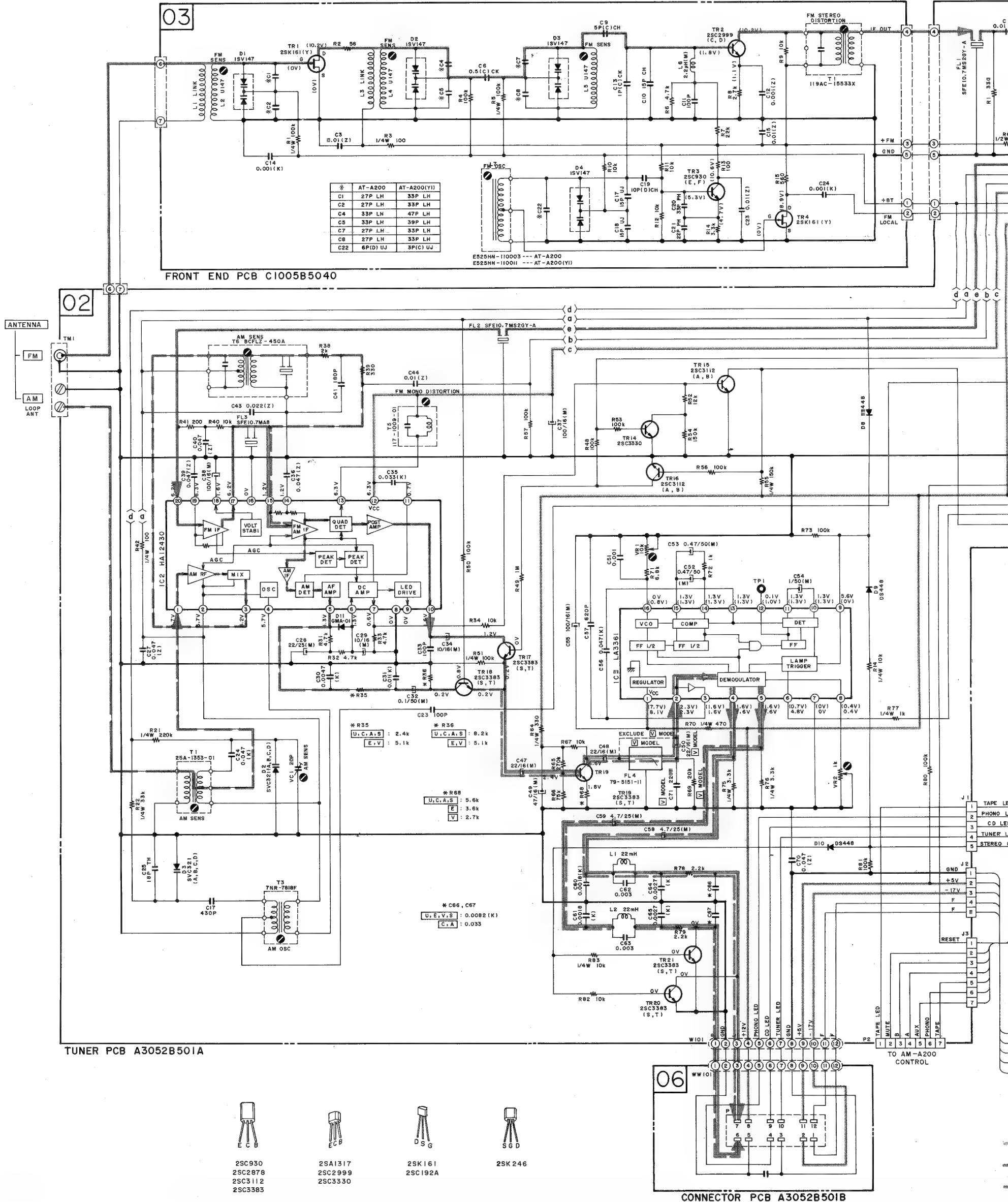
JUNCTION (B) PCB PI047D501B

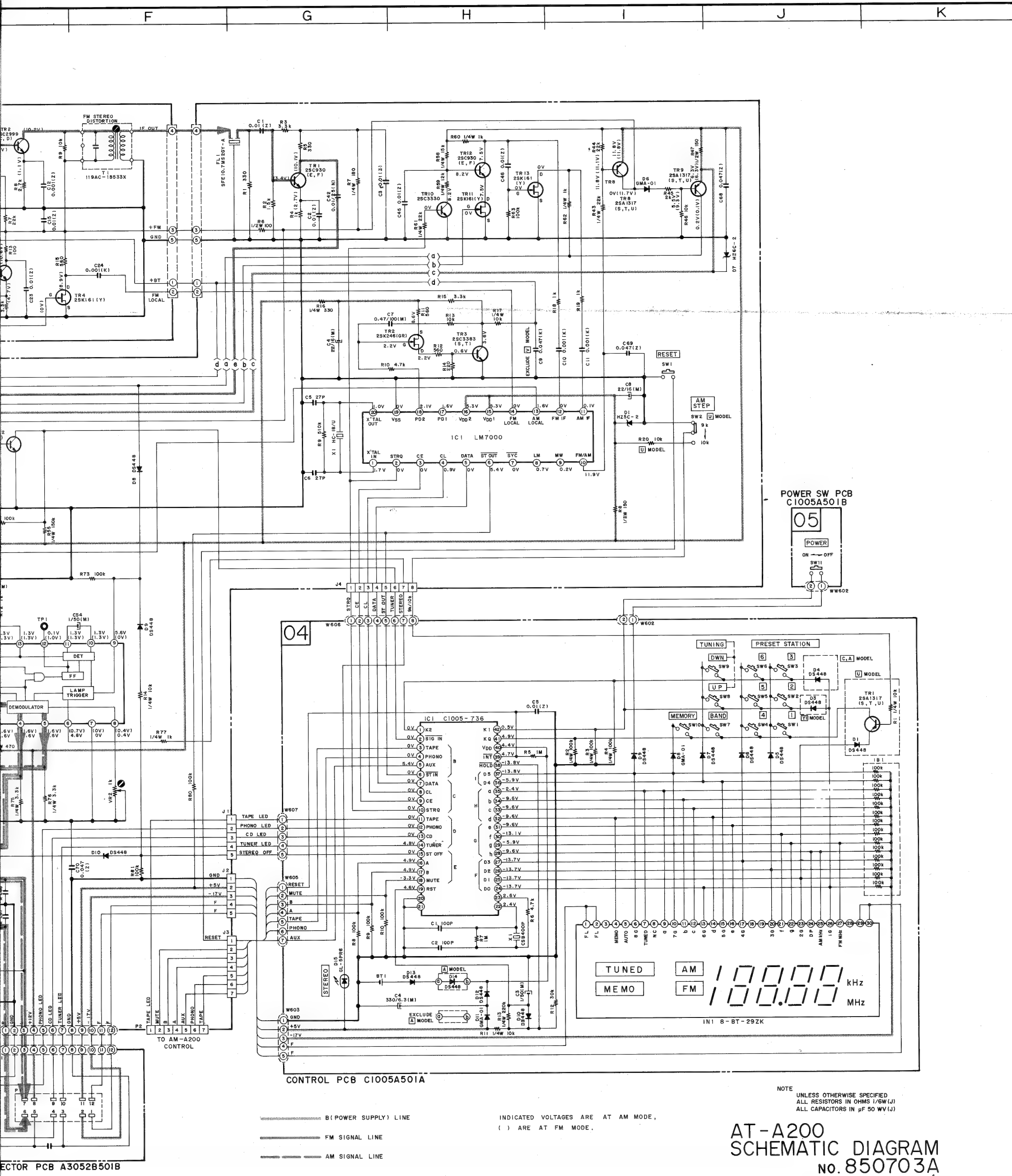


JUNCTION (A) PCB PI047D501A

WARNING: Δ INDICATES SAFETY CRITICAL COMPONENTS. FOR CONTINUED SAFETY,
REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S
RECOMMENDED PARTS.
AVERTISSEMENT: Δ IL INDIQUE LES COMPOSANTS CRITIQUES DE SÉCURITÉ.
POUR MAINTENIR LE DEGRÉ DE SÉCURITÉ DE L'APPAREIL,
NE REMPLACER QUE DES PIÈCES RECOMMANDÉES PAR LE FABRICANT

AT-A200





NOTE
UNLESS OTHERWISE SPECIFIED
ALL RESISTORS IN OHMS 1/6W(J)
ALL CAPACITORS IN μ F 50 WV(J)

AT-A200 SCHEMATIC DIAGRAM No. 850703A

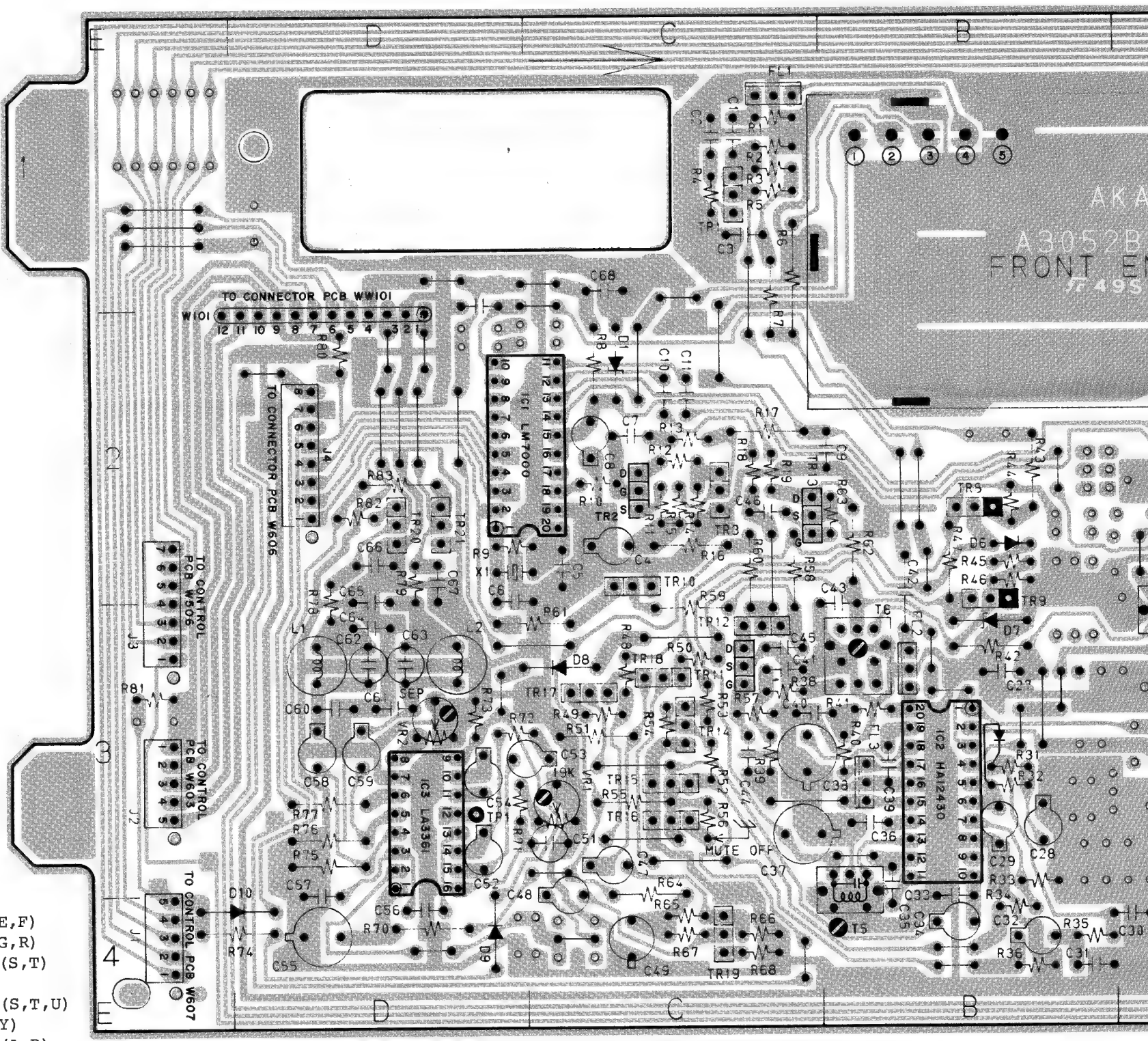
LOCATION OF COMPORNENTS

- TRANSISTOR'S
- TR1.....C1
 - TR2.....C2
 - TR3.....C2
 - TR8.....B2
 - TR9.....B2/B3
 - TR10.....C2
 - TR11.....C3
 - TR12.....C3
 - TR13.....C2
 - TR14.....C3
 - TR15.....C3
 - TR16.....C3
 - TR17.....C3
 - TR18.....C3
 - TR19.....C4
 - TR20.....D2
 - TR21.....D2

- IC'S
- IC1.....C2/D2
 - IC2.....B3
 - IC3.....D3

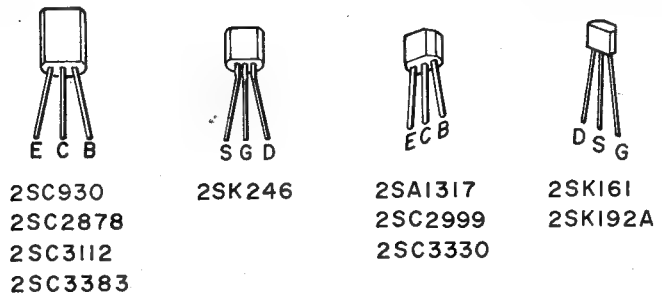
- CONNECTOR'S
- J1.....E4
 - J2.....E3
 - J3.....E2/E3
 - W101.....D2
 - P2.....A1

- TR1,12.....2SC930 (E,F)
- TR2.....2SK246 (G,R)
- TR3,17,18,19,20,21...2SC3383 (S,T)
- TR10,14.....2SC3330
- TR8,9.....2SA1317 (S,T,U)
- TR11,13.....2SK161 (Y)
- TR15,16.....2SC3112 (A,B)

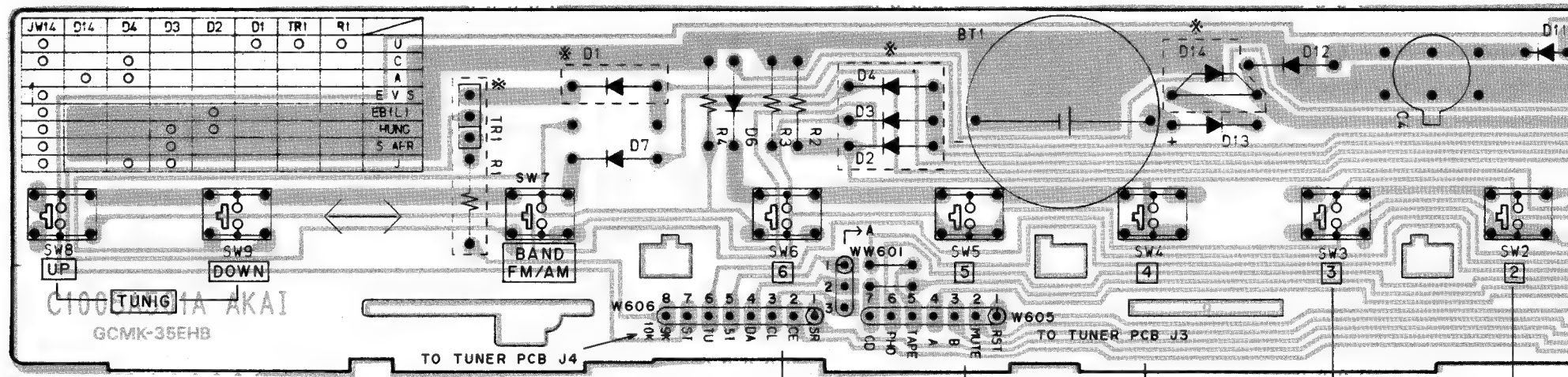


TUNER PCB A3052B501A

●●● = PNP TRANSISTOR
 ●●● = NPN TRANSISTOR

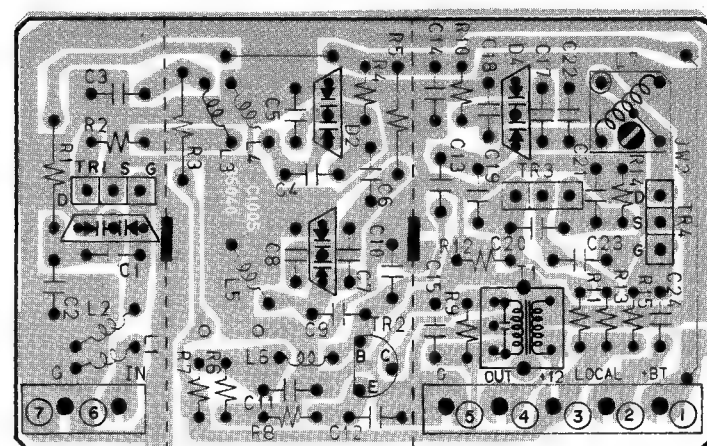
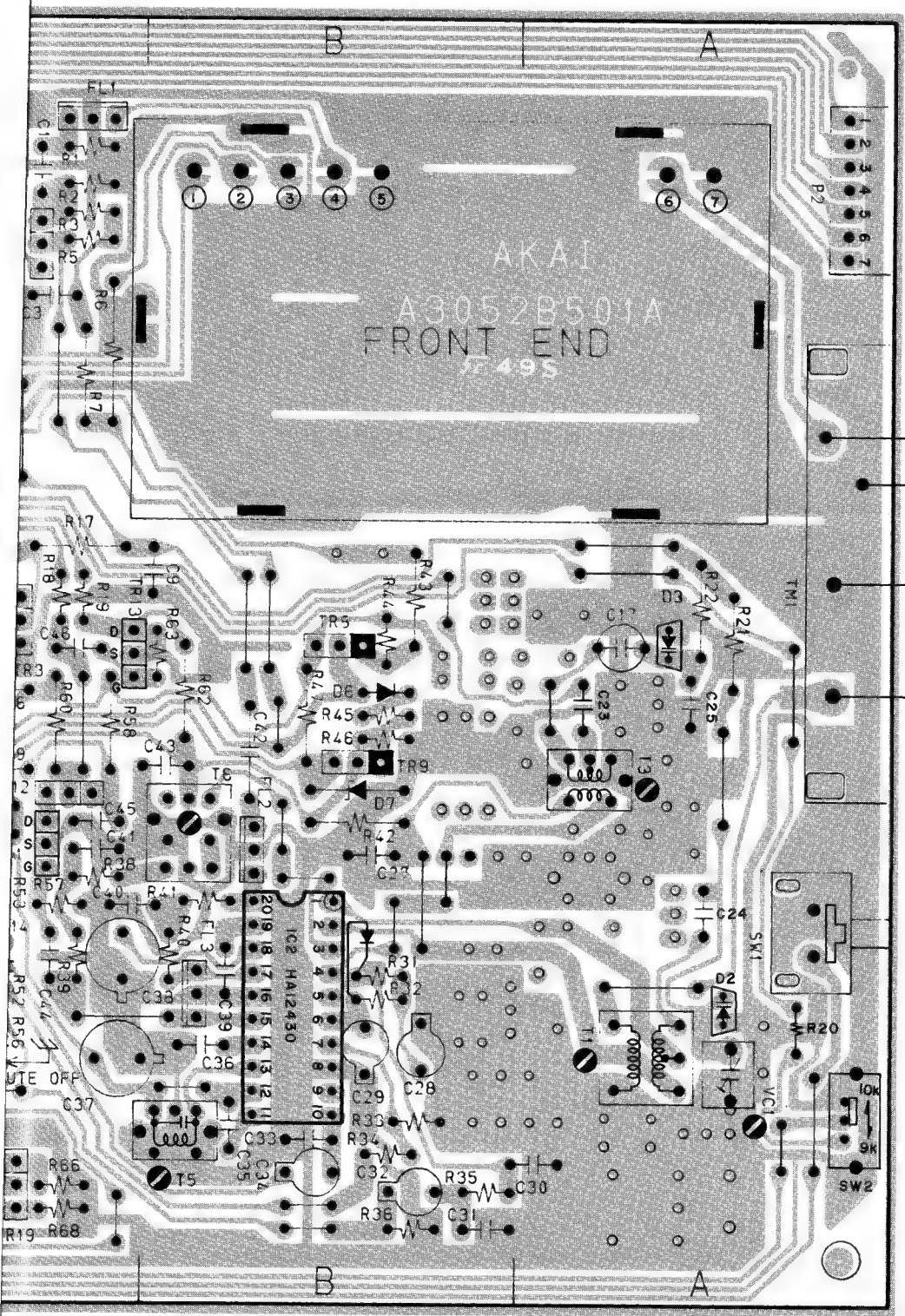


* :SEE CHART OF DISTINATION

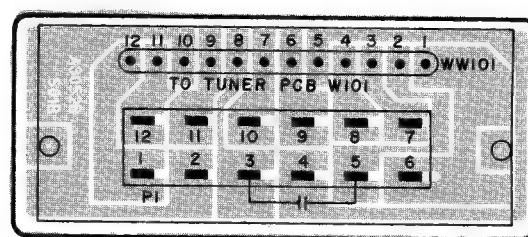
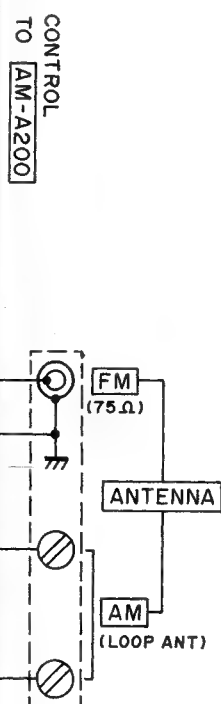


CONTROL PCB C1005A501A

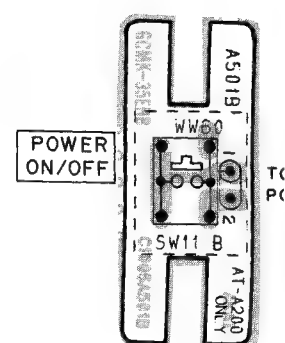
PRESET STATION



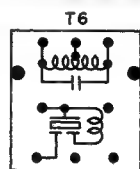
FRONT END PCB CI005B5040



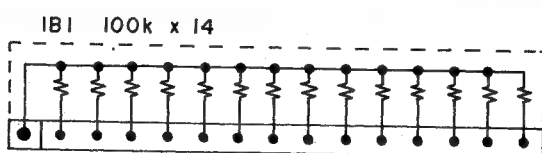
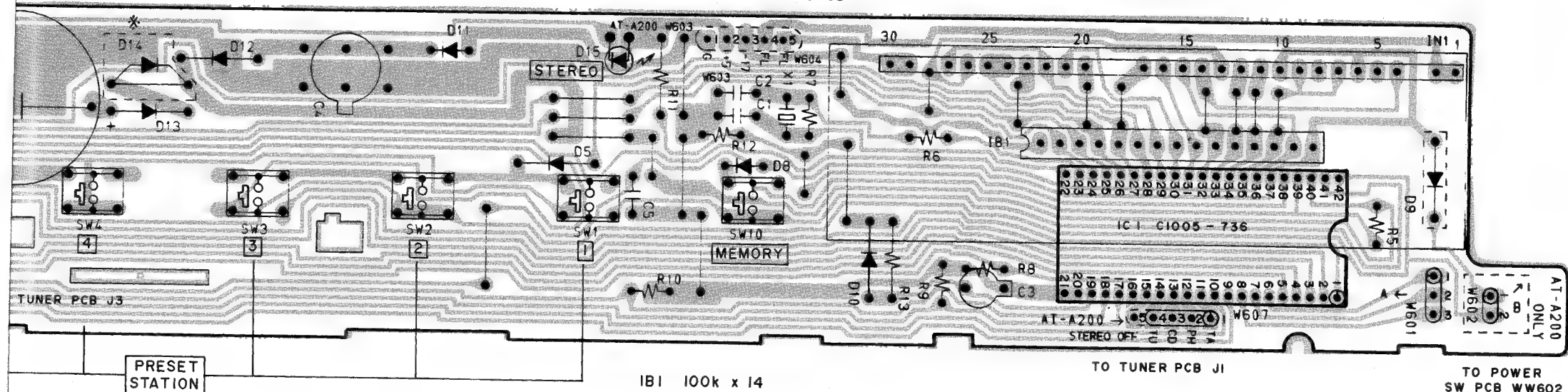
CONNECTOR PCB A3052B501B



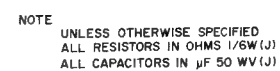
POWER SW PCB CI005A501B



TO TUNER PCB J2







AT-A200L
SCHEMATIC DIAGRAM
No. 850704A

LOCATION OF COMPORNENTS

- TRANSISTOR'S
- TR1.....C1
 - TR2.....C2
 - TR3.....C2
 - TR4.....A3
 - TR5.....A3
 - TR6.....A2
 - TR7.....B3
 - TR8.....B2
 - TR9.....B2/B3
 - TR10.....C2
 - TR11.....C3
 - TR12.....C3
 - TR13.....C2
 - TR14.....C3
 - TR15.....C3
 - TR16.....C3
 - TR17.....C3
 - TR18.....C3
 - TR19.....C4
 - TR20.....D2
 - TR21.....D2
 - TR22.....B2
 - TR23.....B2

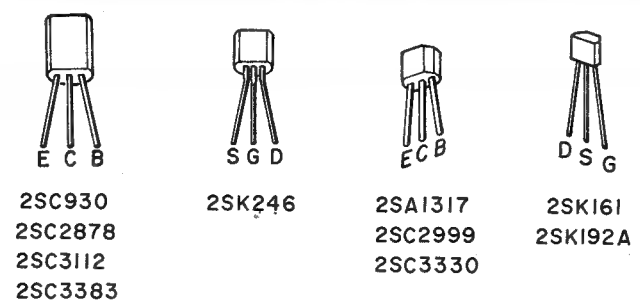
- IC'S
- IC1.....C2/D2
 - IC2.....B3
 - IC3.....D3

- CONNECTOR'S
- J1.....E4
 - J2.....E3
 - J3.....E2/E3
 - W101.....D2
 - P2.....A1

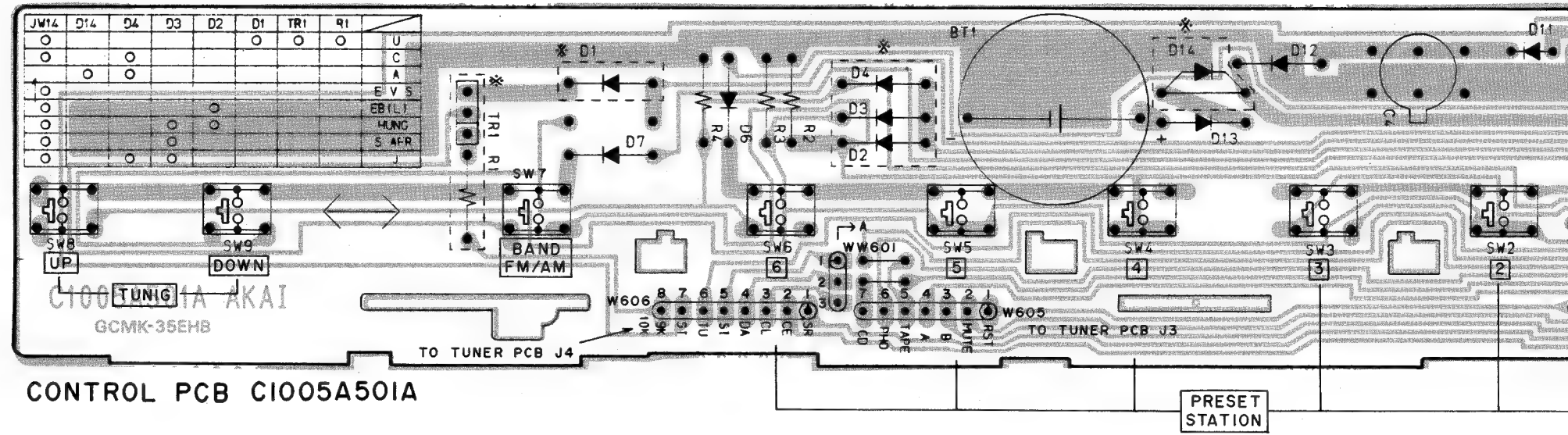
- TR1, 12.....2SC930 (E,F)
- TR2.....2SK246 (G,R)
- TR3, 17, 18, 19, 20, 21...2SC3383 (S,T)
- TR4, 6.....2SC2878 (A,B)
- TR5.....2SK192 (G,R)
- TR7, 10, 14, 22, 23.....2SC3330
- TR8, 9.....2SA1317 (S,T,U)
- TR11, 13.....2SK161 (Y)
- TR15, 16.....2SC3112 (A,B)

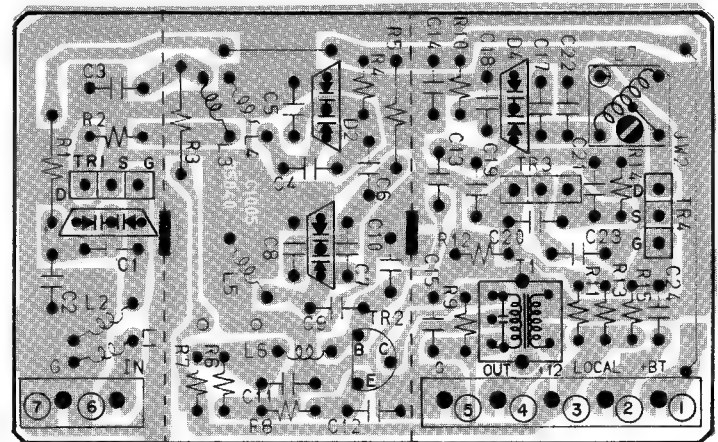
= NPN TRANSISTOR

= PNP TRANSISTOR

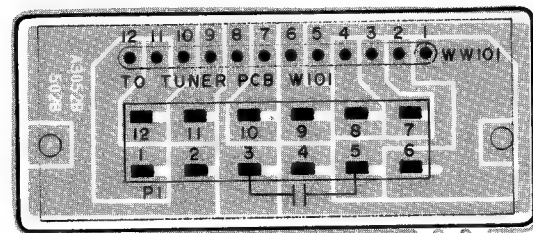


* :SEE CHART OF DISTINATION

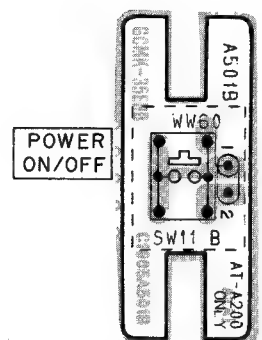




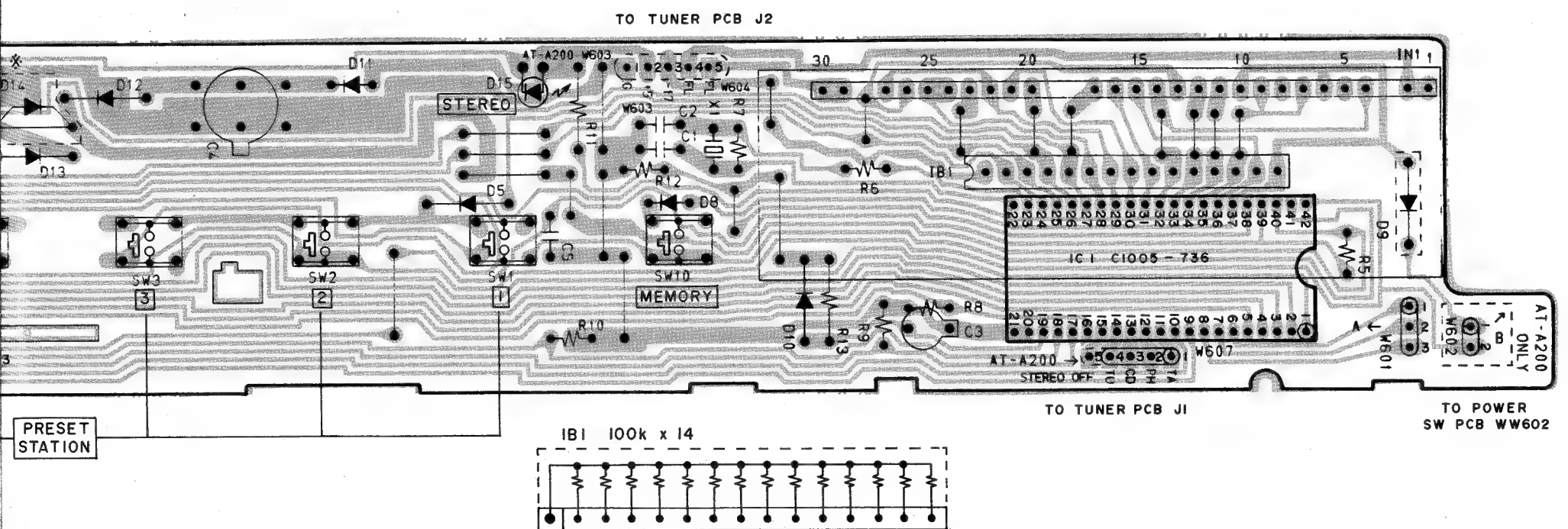
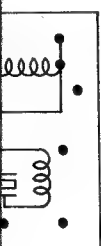
FRONT END PCB CI005B5040



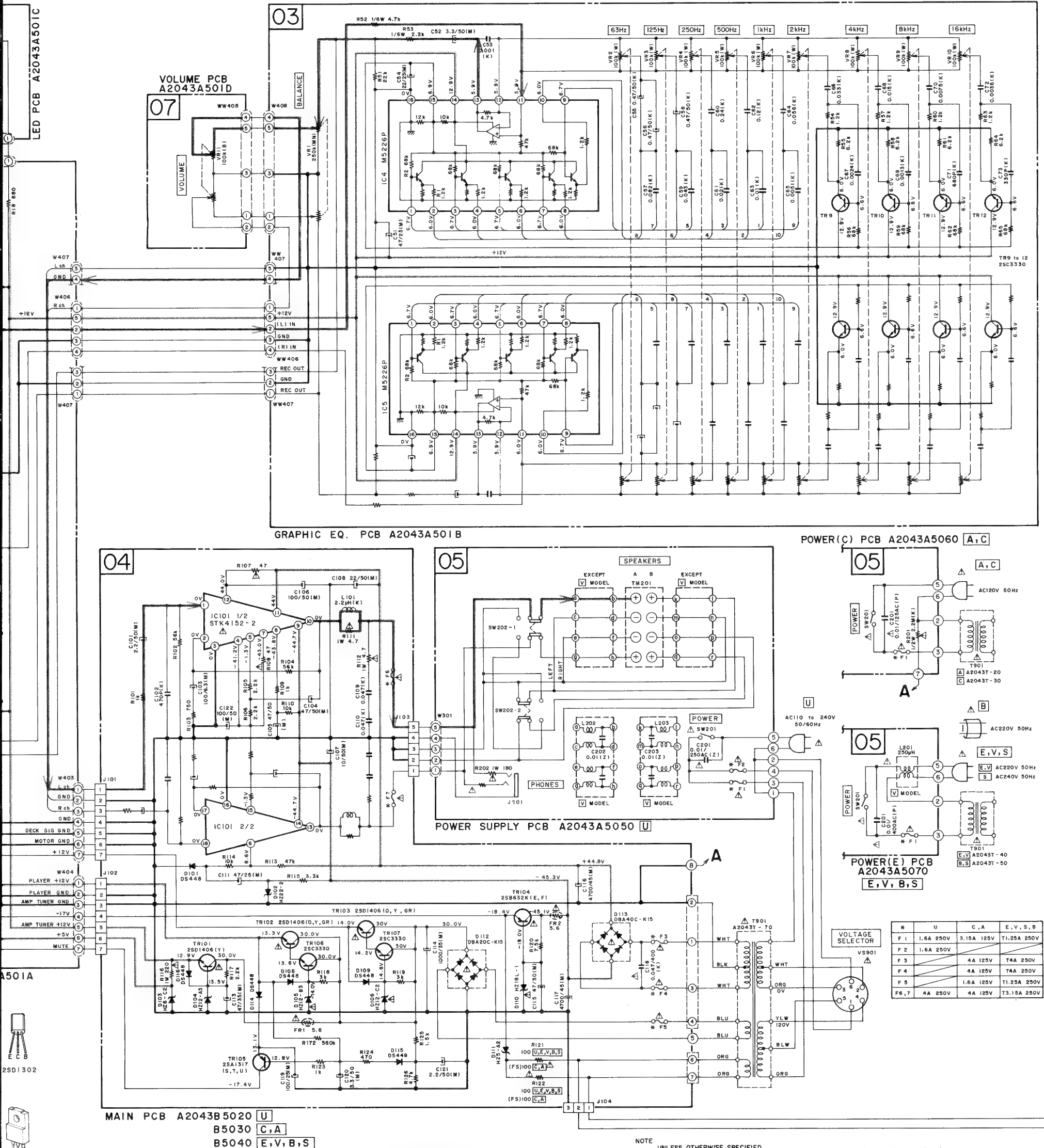
CONNECTOR PCB A3052B502B



POWER SW PCB
C1005A501B







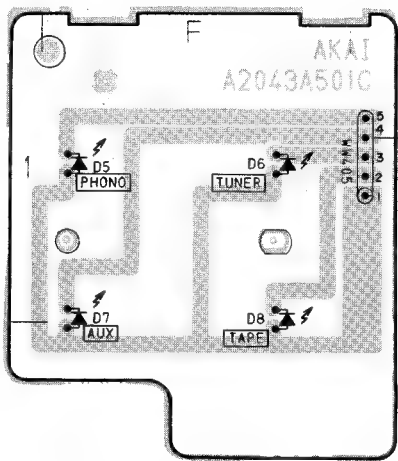
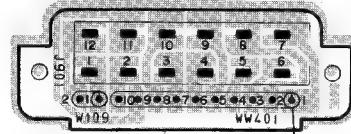
WARNING: Δ INDICATES SAFETY CRITICAL COMPONENTS. FOR CONTINUED SAFETY, REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S RECOMMENDED PARTS.
AVERTISSEMENT: Δ IL INDIQUE LES COMPOSANTS CRITIQUES DE SÉCURITÉ. POUR MAINTENIR LE DEGRÉ DE SÉCURITÉ DE L'APPAREIL, NE REMPLACER QUE DES PIÈCES RECOMMANDÉES PAR LE FABRICANT.

NOTE: UNLESS OTHERWISE SPECIFIED, ALL RESISTORS IN OHMS (1/4W (J)) ALL CAPACITORS IN μF (50WV (J)) POWER TRANSFORMER IS DIFFERENT ACCORDING TO AREA (FS) = FAIL SAFE RESISTORS

AM - A200 SCHEMATIC DIAGRAM No. 850610A

| U | | C, A | | E, V, S, B | |
|-------|-----------|------------|-------------|-------------|--|
| F1 | 1.6A 250V | 3.15A 125V | T1.25A 250V | | |
| F2 | 1.6A 250V | | | T4A 250V | |
| F3 | | 4A 125V | | T4A 250V | |
| F4 | | 4A 125V | | T1.25A 250V | |
| F5 | | 1.6A 125V | | T1.25A 250V | |
| F6, 7 | 4A 250V | 4A 125V | | T3.15A 250V | |

CONNECTOR(A) PCB A2043A501E



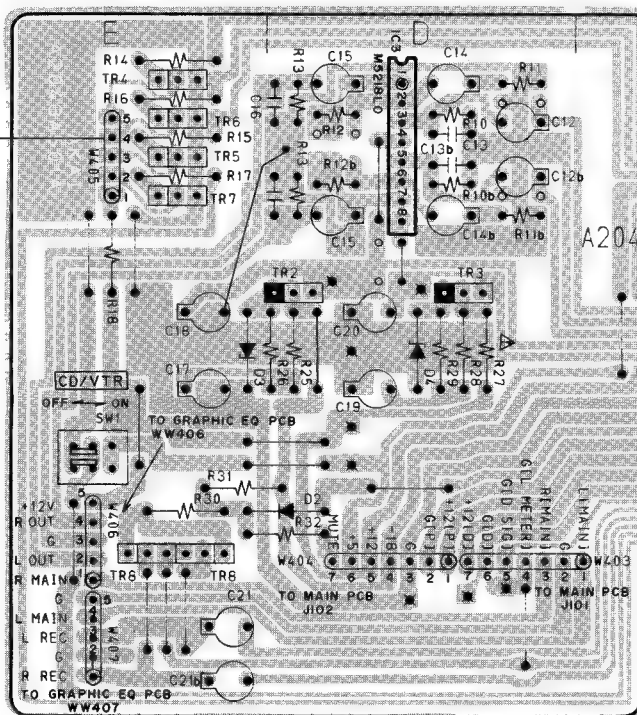
LED PCB A2043A501C

B = NPN TRANSISTOR
 B = PNP TRANSISTOR

LOCATION OF COMPONENTS

TRs
 TR1...A2
 TR2...D1
 TR3...D1
 TR4...E1
 TR5...E1
 TR6...E1
 TR7...E1
 TR8...E2

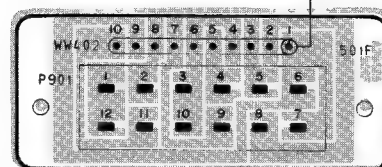
ICs
 IC1...A1
 IC2...B1
 IC3...D1



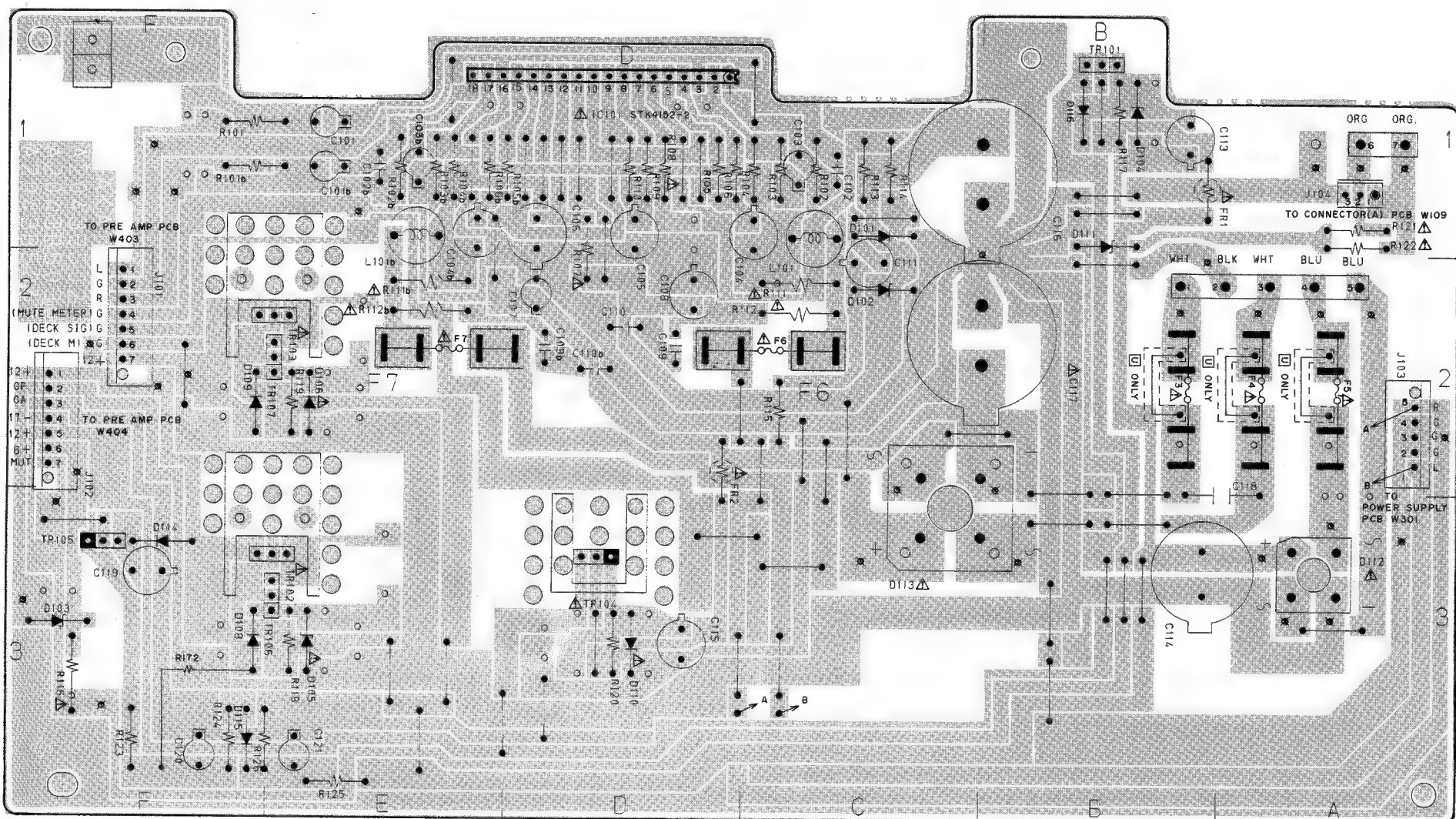
PRE AMP PCB A2043A501A



2SD1302

2SA1317
2SC3330

CONNECTOR(B) PCB A2043A501F



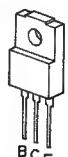
MAIN PCB A2043B5020

5030 C.A
 5040 E.V.B.S

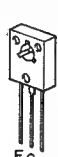
B = NPN TRANSISTOR
 B = PNP TRANSISTOR



2SC3330



2SD1406



2SB632K

LOCATION OF COMPONENTS

TRs
 TR101..B1
 TR102..E3
 TR103..E2
 TR104..D3
 TR105..F3
 TR106..E3
 TR107..E2

ICs
 IC101..D1

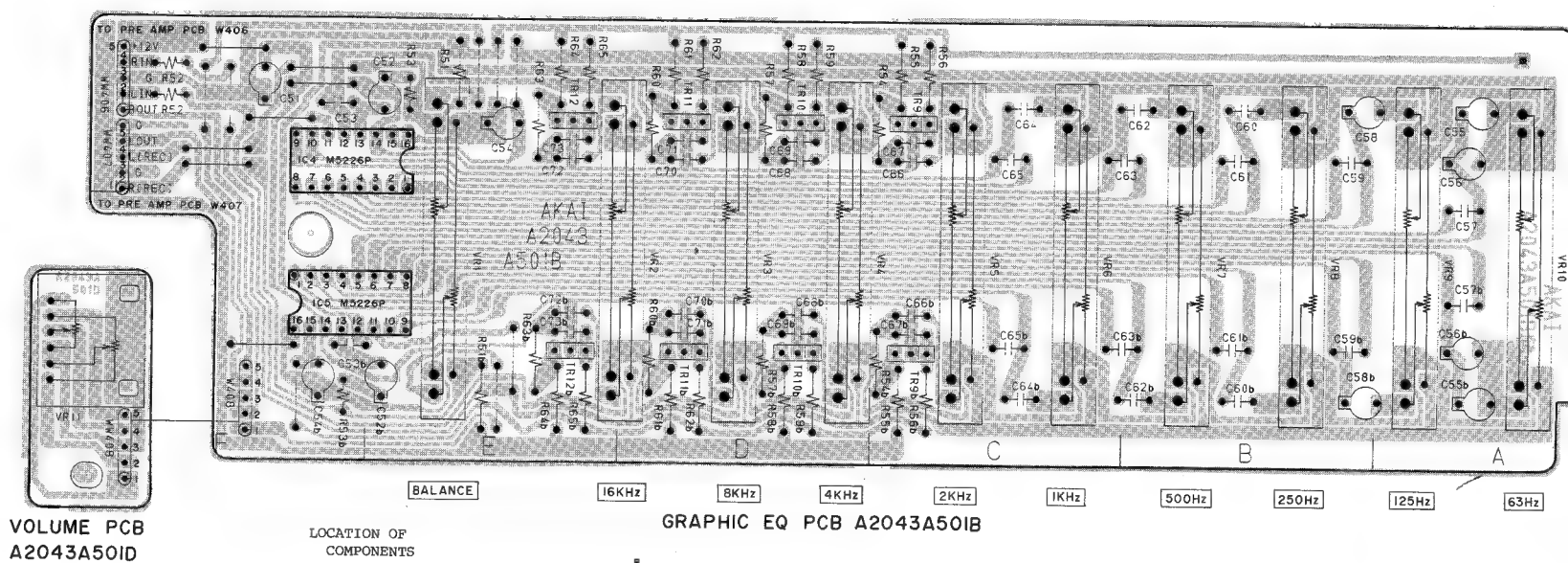
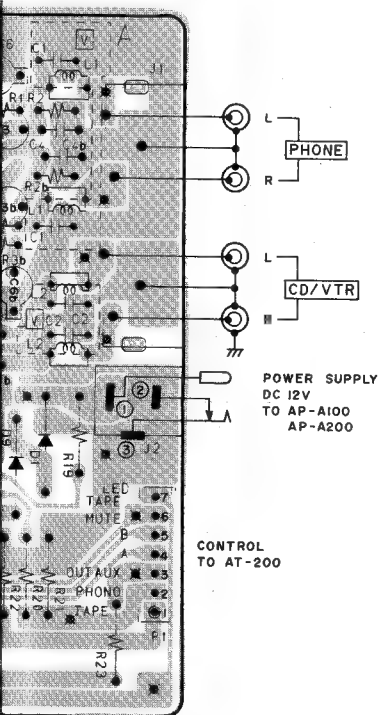
WARNING: INDICATES SAFETY CRITICAL COMPONENTS FOR CONTINUED SAFETY. REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S RECOMMENDED PARTS.
 AVERTISSEMENT: INDIQUE LES COMPOSANTS CRITIQUES DE SÉCURITÉ. POUR MAINTENIR LE DEGRÉ DE SÉCURITÉ DE L'APPAREIL, NE REMPLACER QUE DES PIÈCES RECOMMANDÉES PAR LE FABRICANT.

PHONE

CD/VTR

POWER SUPPLY
 DC 12V
 TO AP-A100
 AP-A200

CONTROL TO AT-200



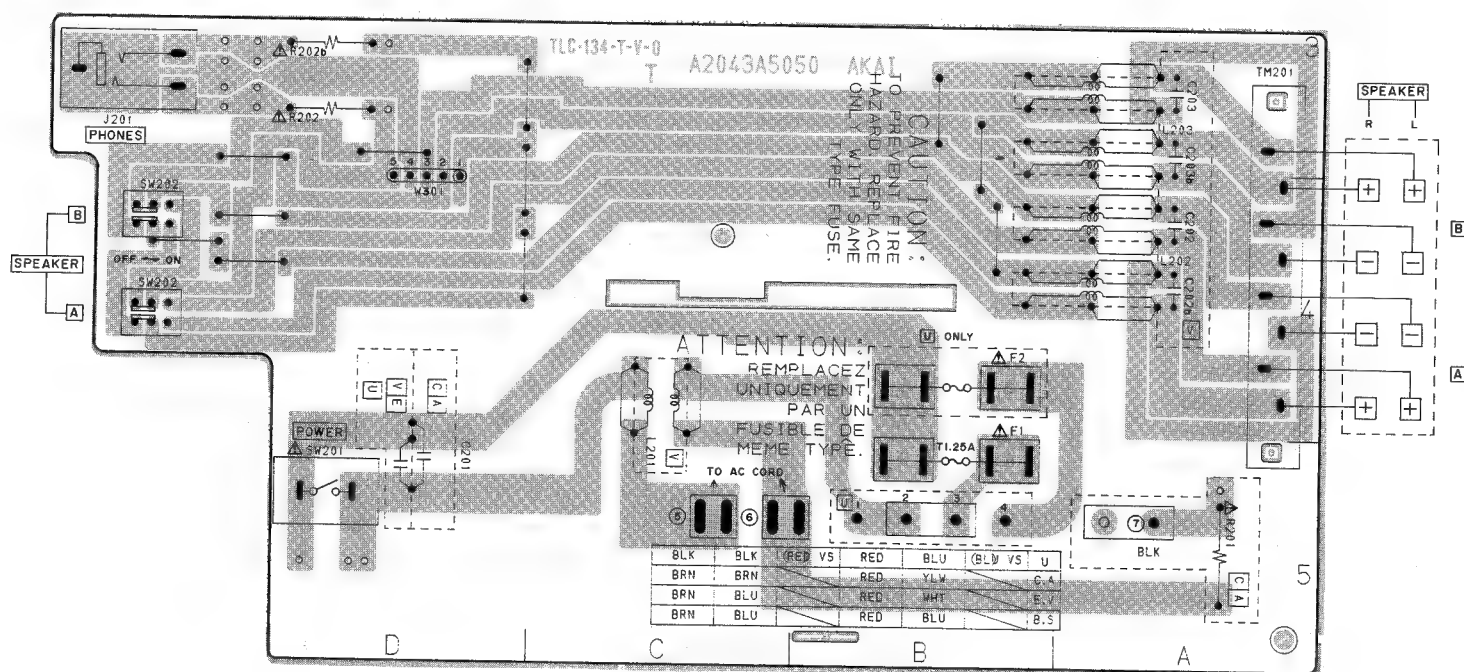
LOCATION OF
COMPONENTS

TRs
TR9...C3
TR10...D3
TR11...D3
TR12...E3

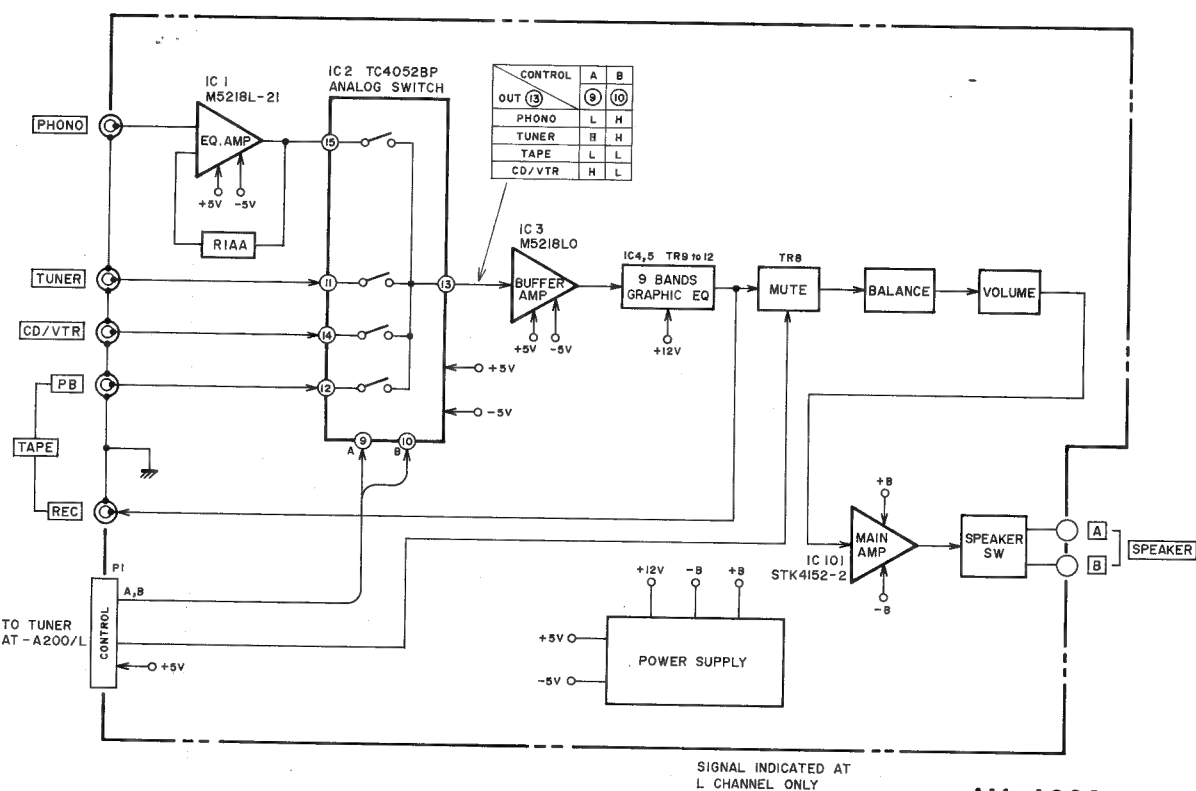
TR9b...C4
TR10b...D4
TR11b...D4
TR12b...E4

••• = NPN TRANSISTOR

2SC3330



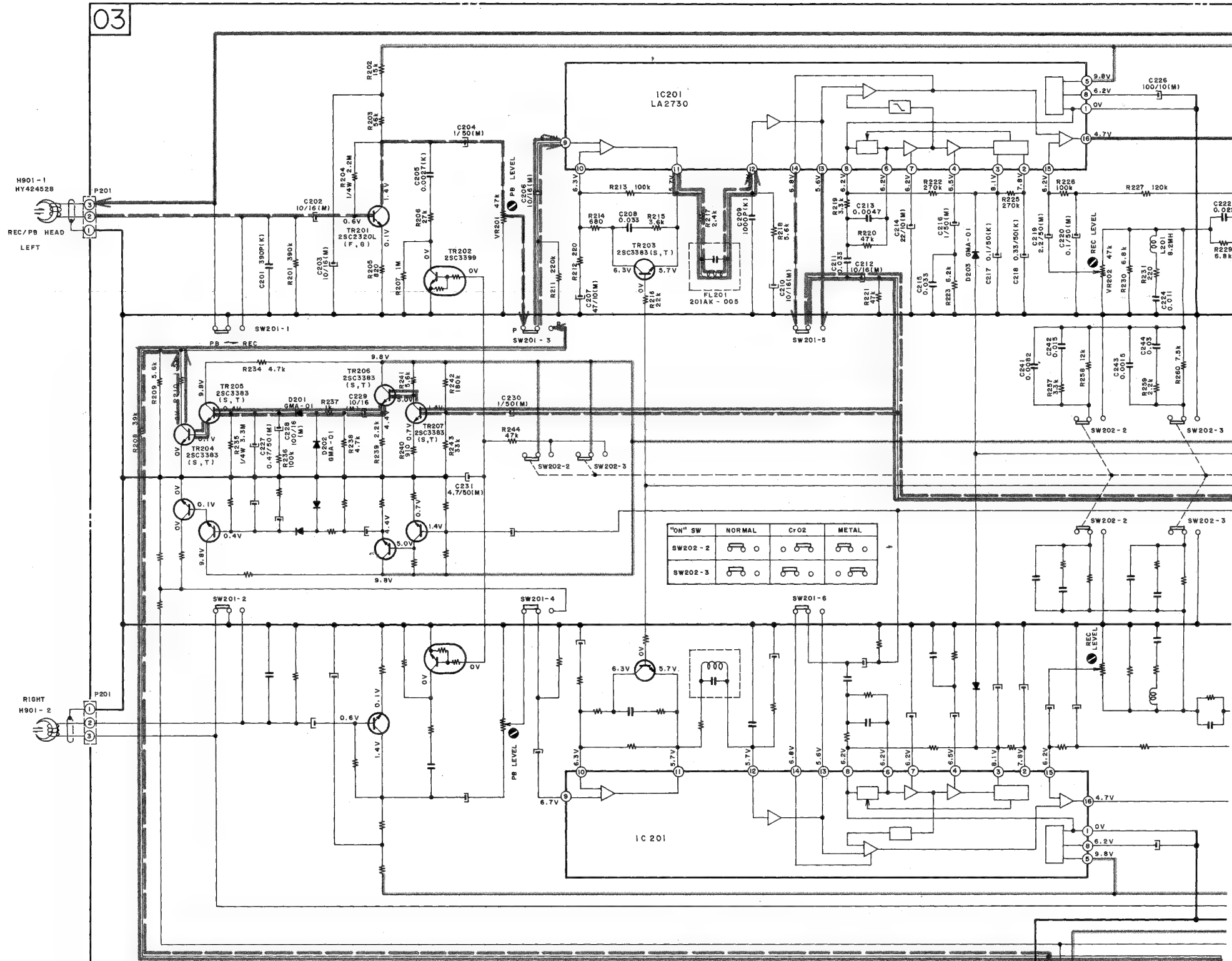
5060 A.C.
5070 E.V.B.S.



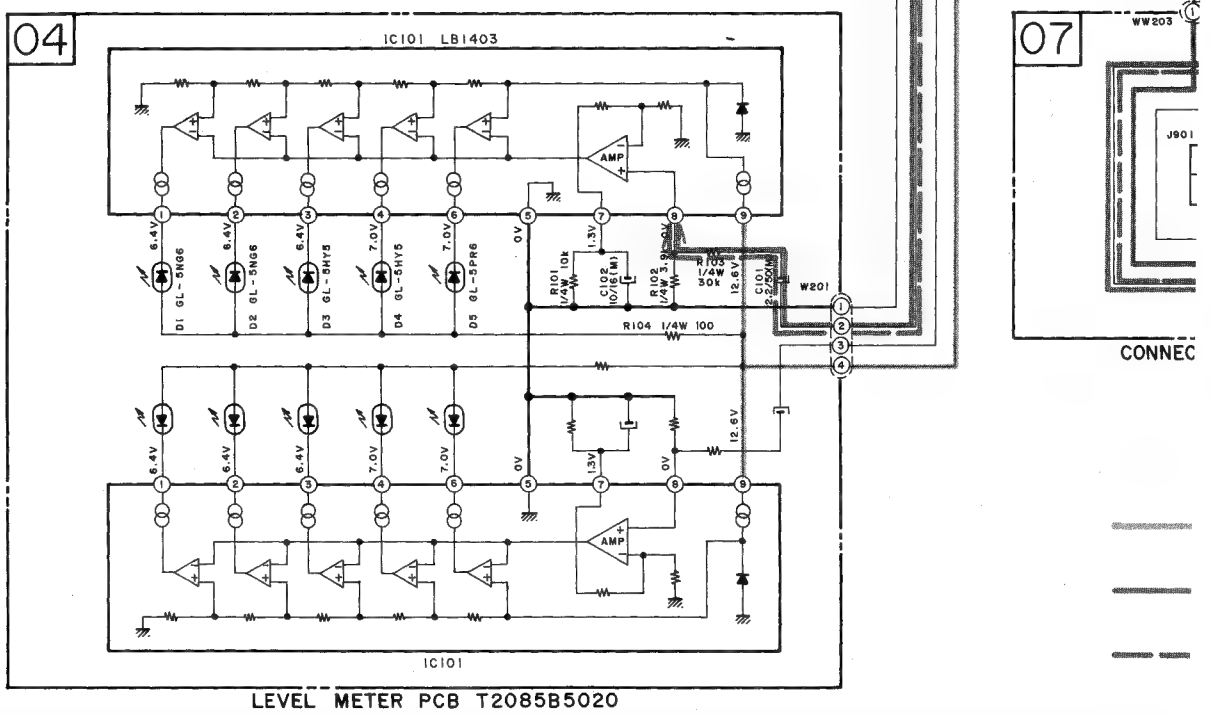
SIGNAL INDICATED AT
L CHANNEL ONLY

AM-A200
BLOCK DIAGRAM
No. 850611A

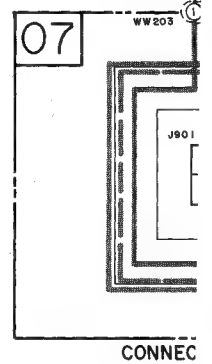
HX-A200



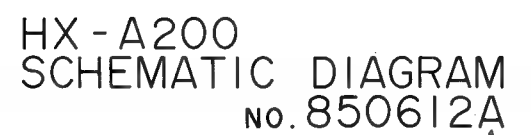
PRE AMP PCB T2085B501A



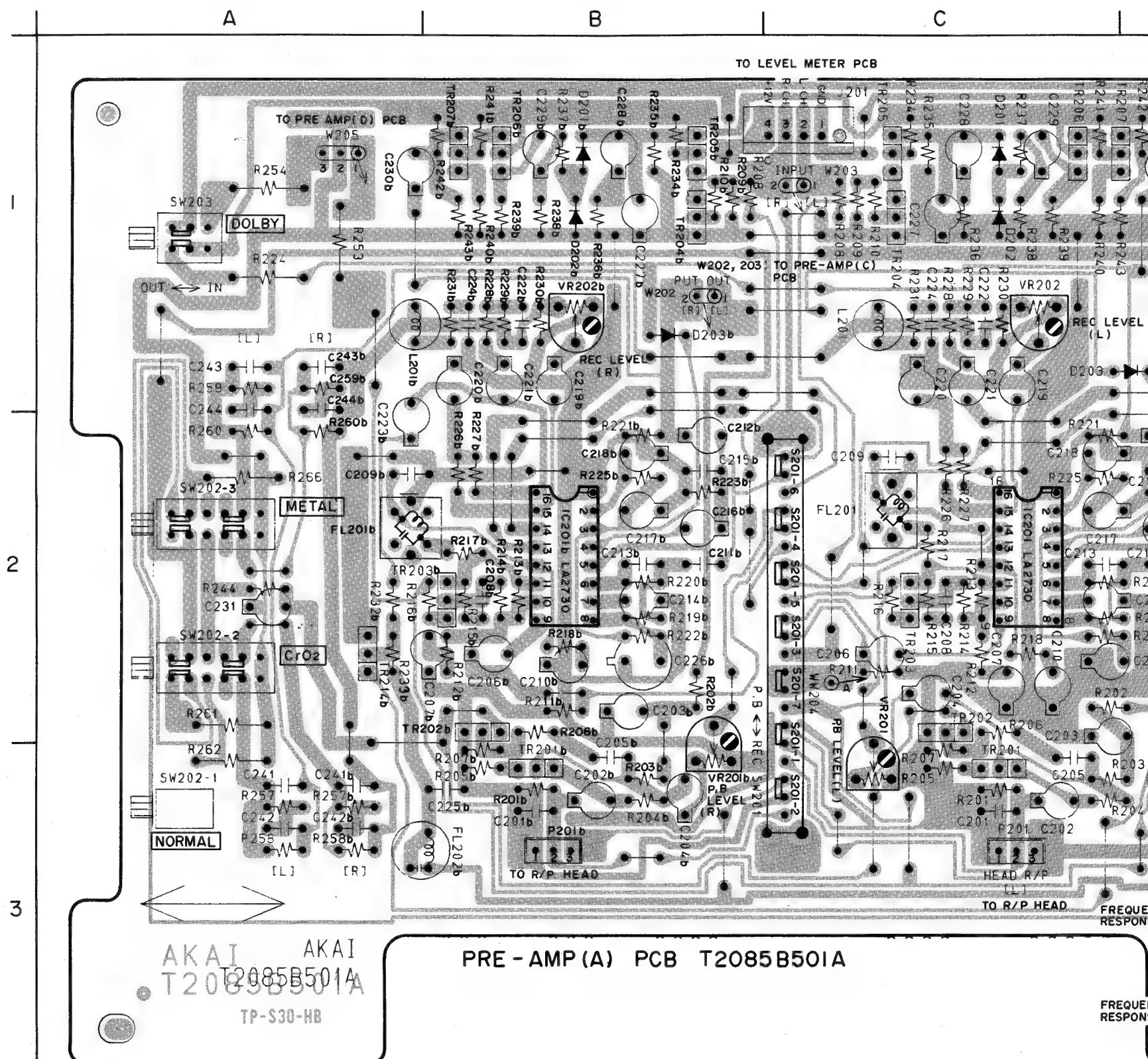
LEVEL METER PCB T2085B5020

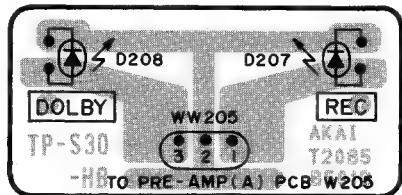


CONNEC

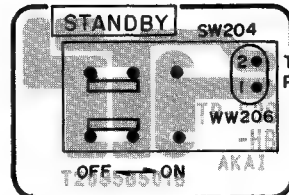


HX - A200
SCHEMATIC DIAGRAM
NO. 850612A





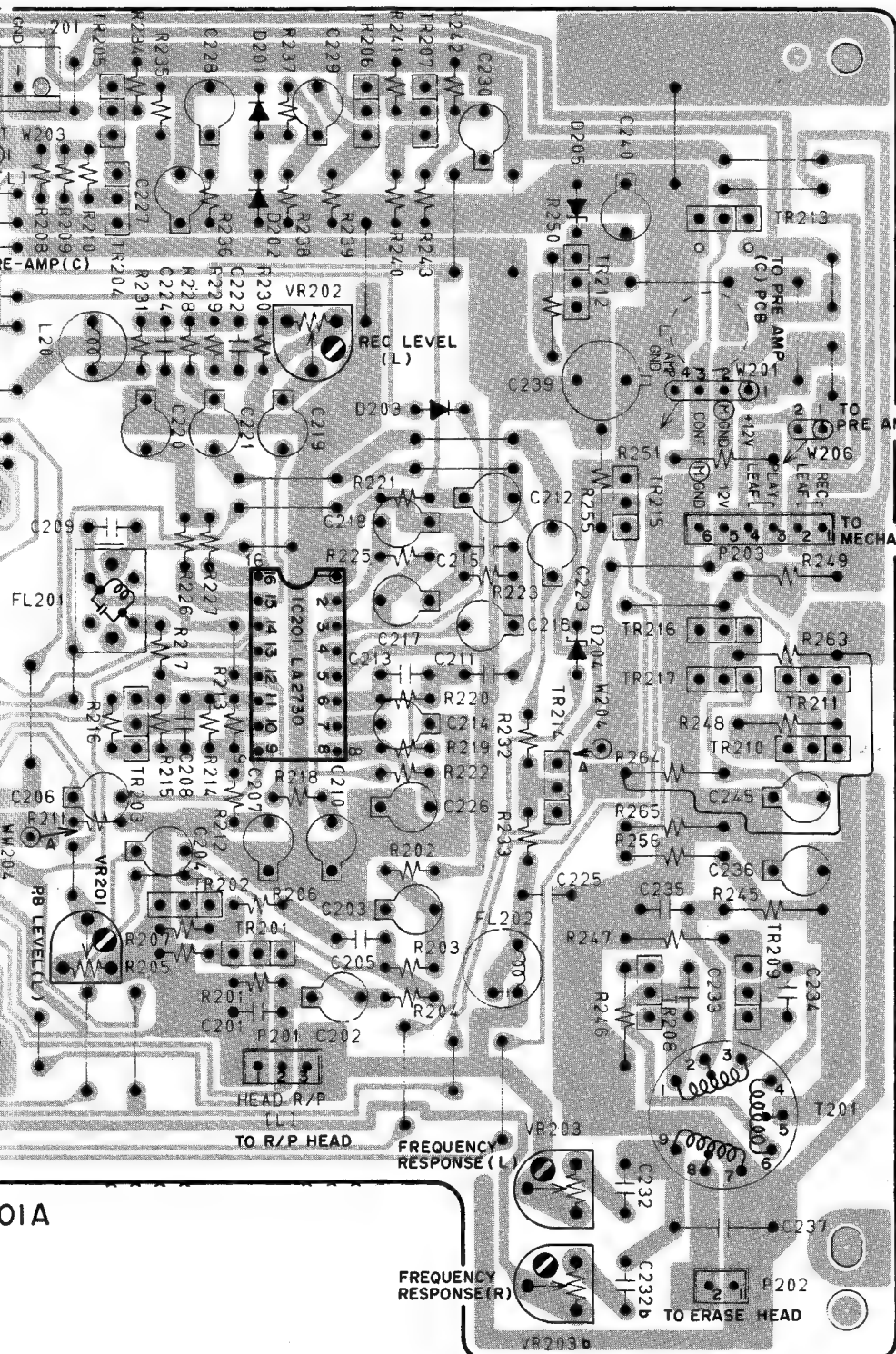
LED PCB
T2085B501D



STANDBY SW PCB
T2085B501B

TOR PCB
501C

METER PCB



LOCATION OF COMPONENTS

- TRs
- TR201.....C3
 - TR201b.....B3
 - TR202, 203.....C2
 - TR202b, 203b.....B2
 - TR204, 205, 206.....C1
 - TR207.....D1
 - TR204b, 205b, 206b, 207b..B1
 - TR208, 209.....D3
 - TR210, 211.....D2
 - TR212, 213.....D1
 - TR214, 215, 216, 217.....D2
 - TR214b.....A2

- ICs
- IC201.....C2
 - IC201b.....B2

- CONNECTORS
- J201.....C1
 - W201.....D1
 - W202.....B1
 - W203.....C1
 - W205.....A1
 - W206.....D1
 - P201.....C3
 - P201b.....B3
 - P202.....D3
 - P203.....D2

- TR201.....2SC2320L (F,G)
- TR202.....2SC3399
- TR203 to 207, 214, 215...2SC3383 (S,T)
- TR208, 209.....2SC2274K (E,F)
- TR210, 212.....2SC3330 (S,T,U)
- TR211.....2SD612K (E,F)
- TR213, 216, 217.....2SC3402



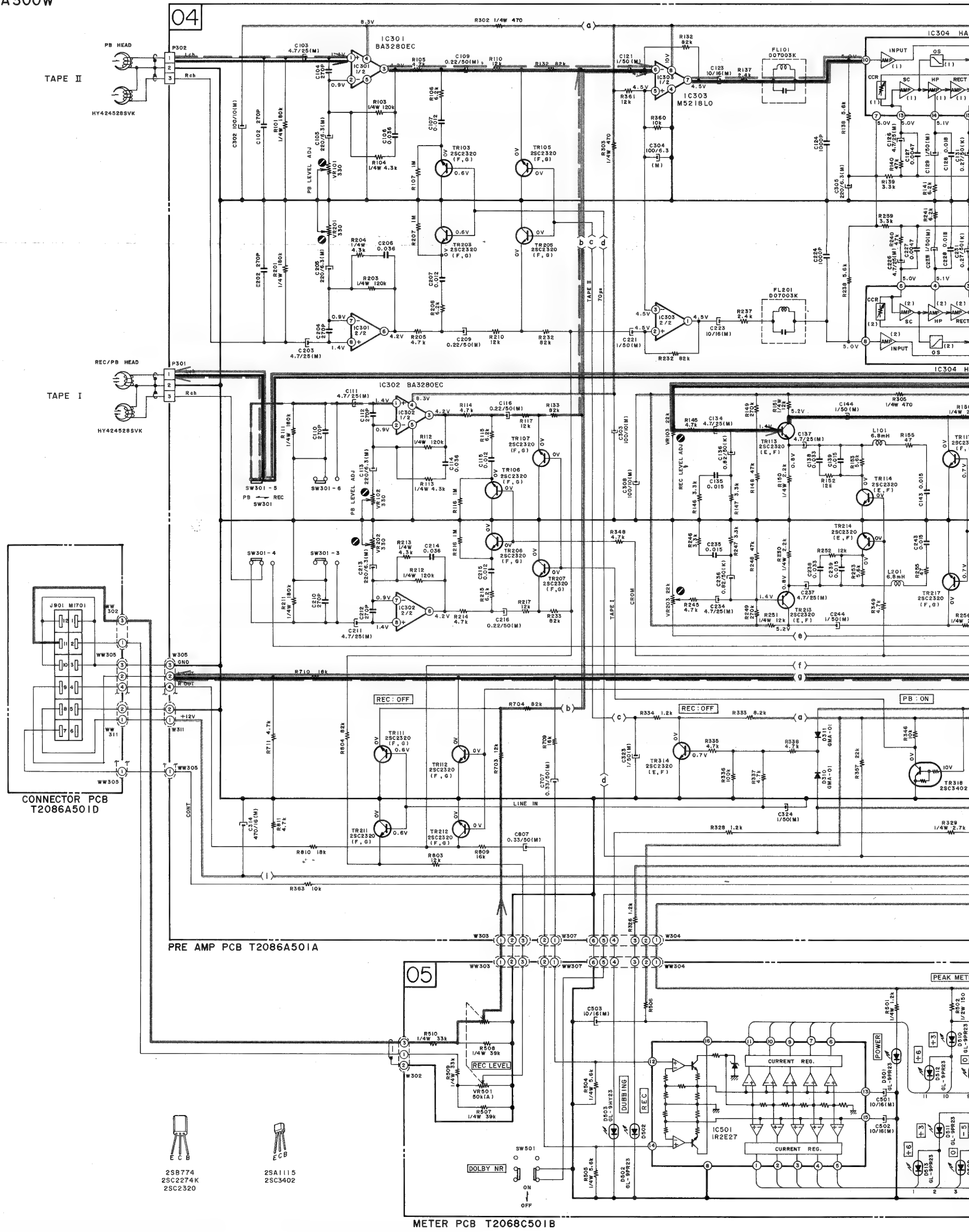
• • • = NPN TRANSISTOR

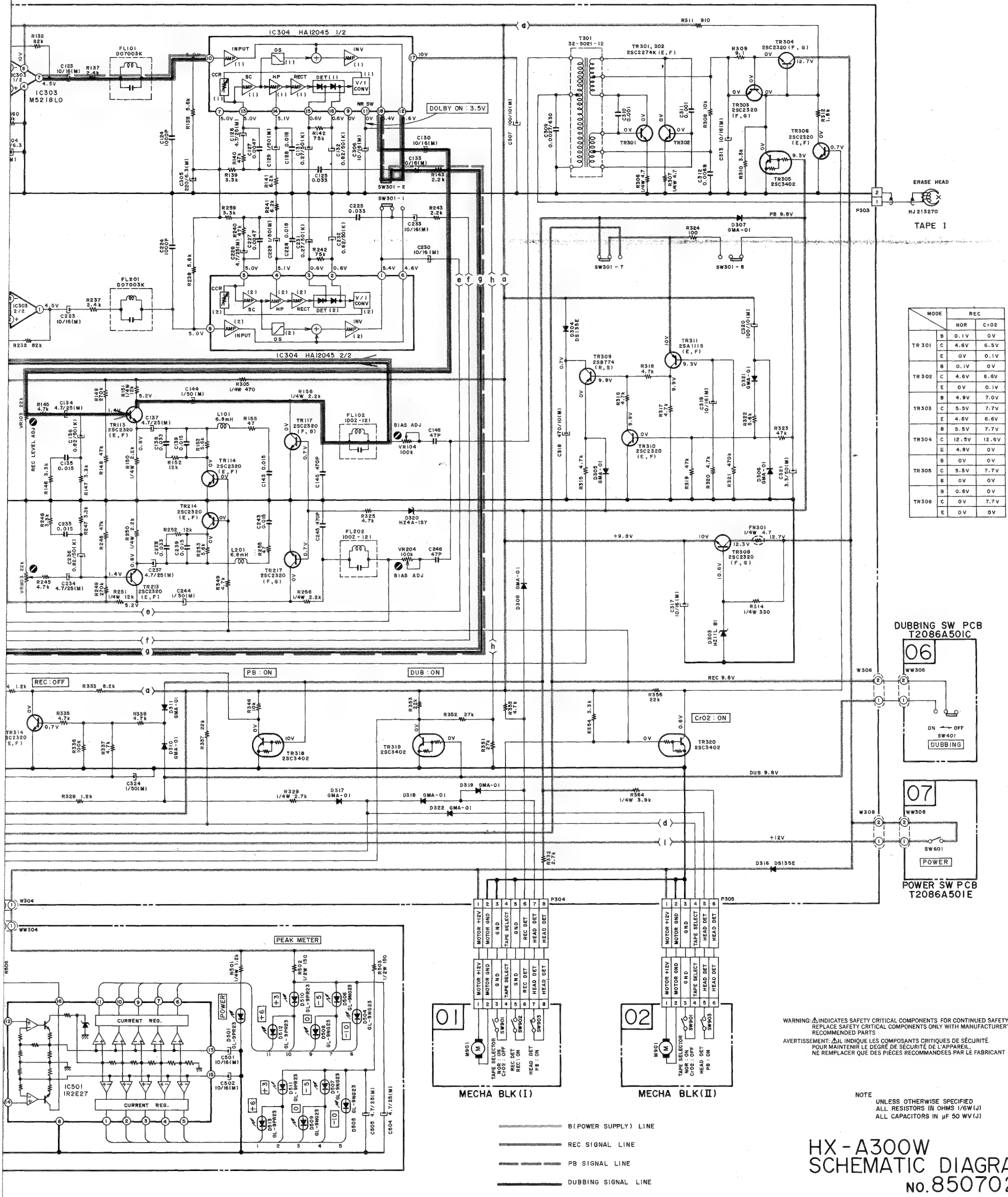
2SC2274K
2SC2320L
2SC3383

2SC3330
2SC3399
2SC3402

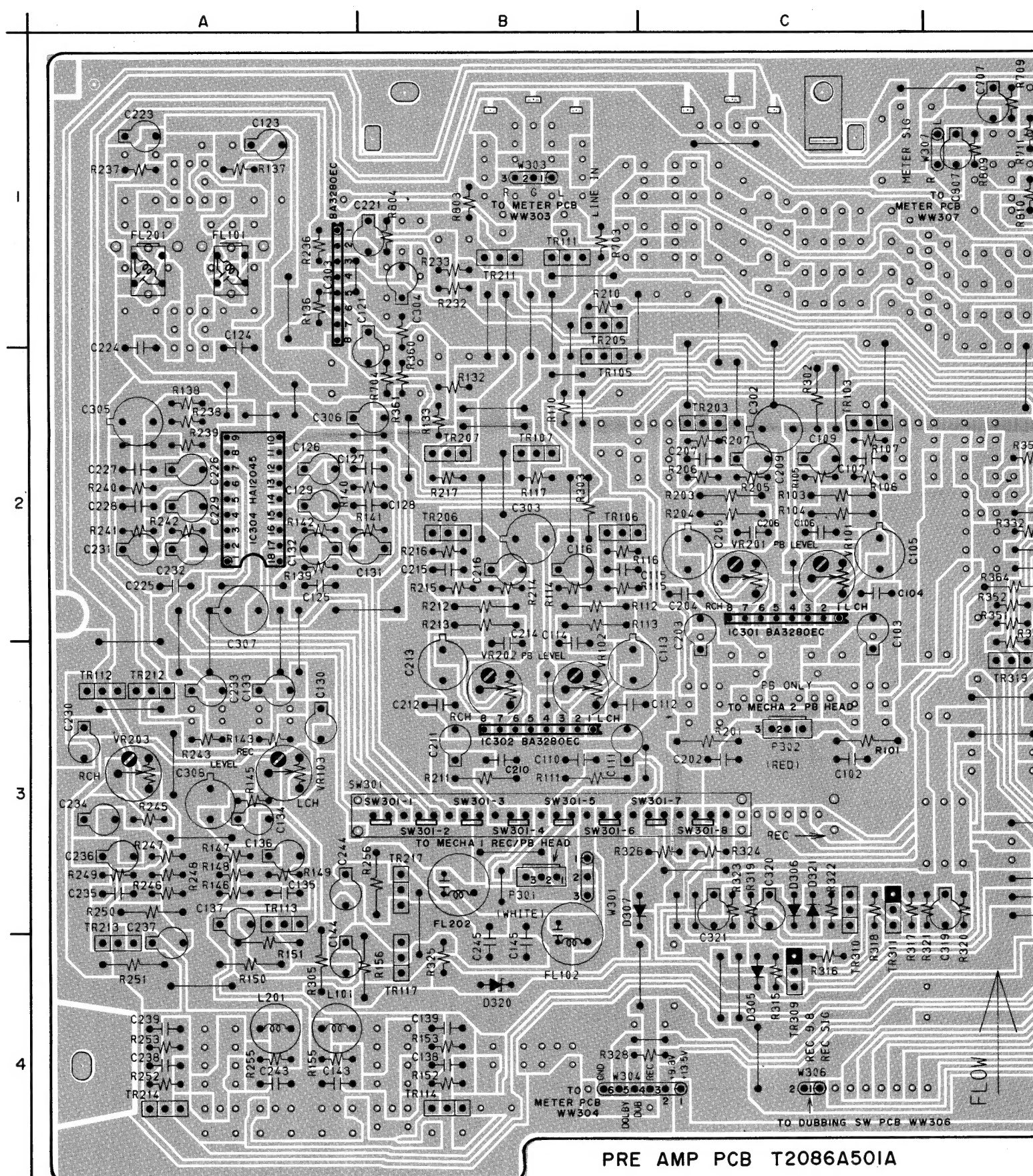
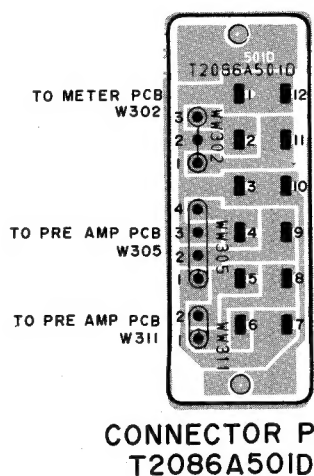
2SD612K

HX - A300W





HX-A300W
SCHEMATIC DIAGRAM
No. 850702A

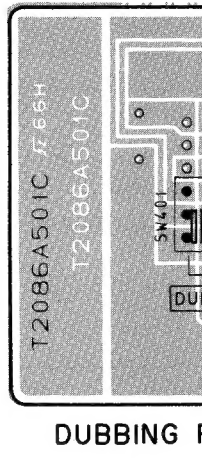
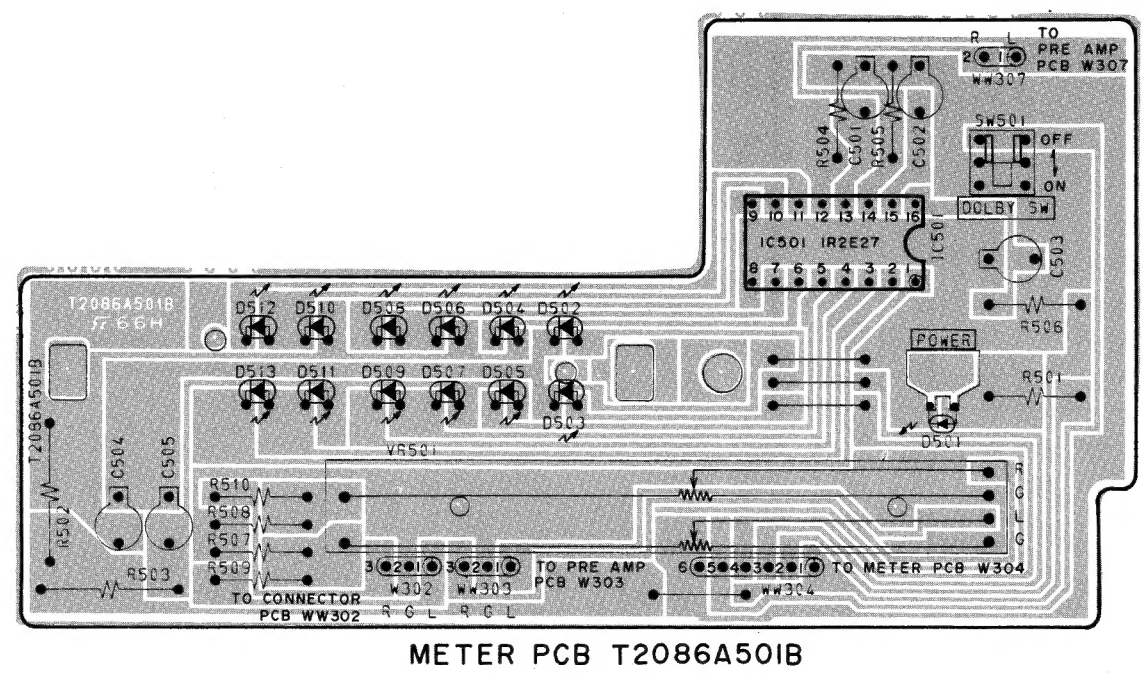


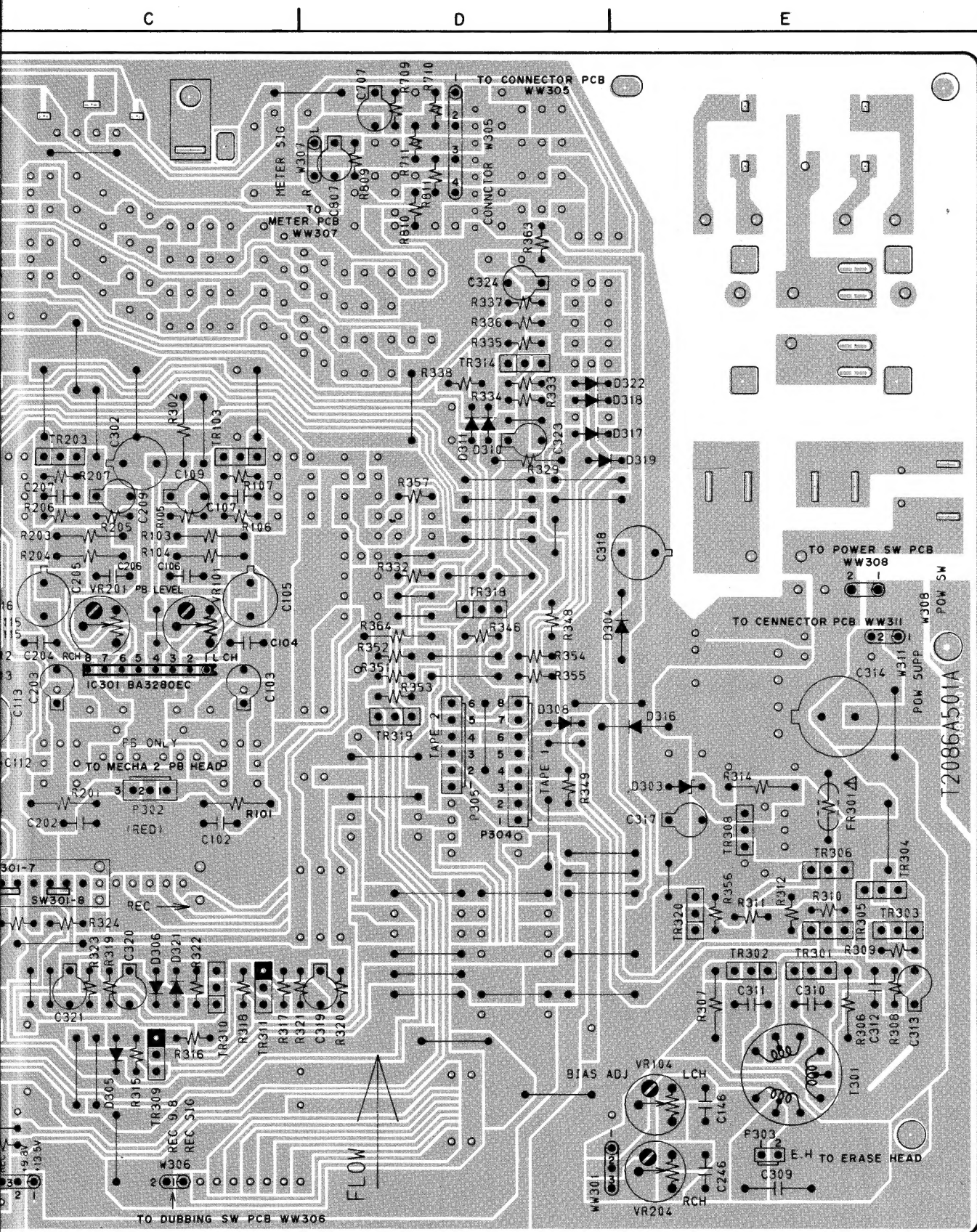
WARNING: Δ INDICATES SAFETY CRITICAL COMPONENTS. FOR CONTINUED SAFETY, REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S RECOMMENDED PARTS.

AVERTISSEMENT: Δ IL INDIQUE LES COMPOSANTS CRITIQUES DE SÉCURITÉ. POUR MAINTENIR LE DEGRÉ DE SÉCURITÉ DE L'APPAREIL, NE REMPLACER QUE DES PIÈCES RECOMMANDÉES PAR LE FABRICANT.

\square = NPN TRANSISTORS

\blacksquare = PNP TRANSISTORS




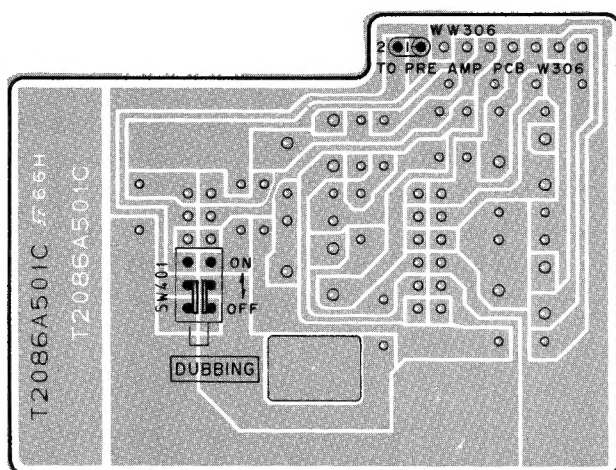


AMP PCB T2086A501A

B
 • • • = NPN TRANSISTORS
 B
 • • • = PNP TRANSISTORS


 2SB774
 2SC2274K
 2SC2320


 2SA1115
 2SC3402



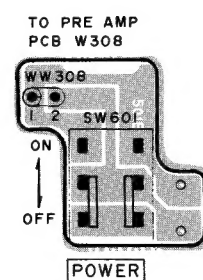
DUBBING PCB T2086A501C

LOCATION OF COMPONENTS

ICs
 IC301.....C2
 IC302.....B3
 IC303.....A1
 IC304.....A2

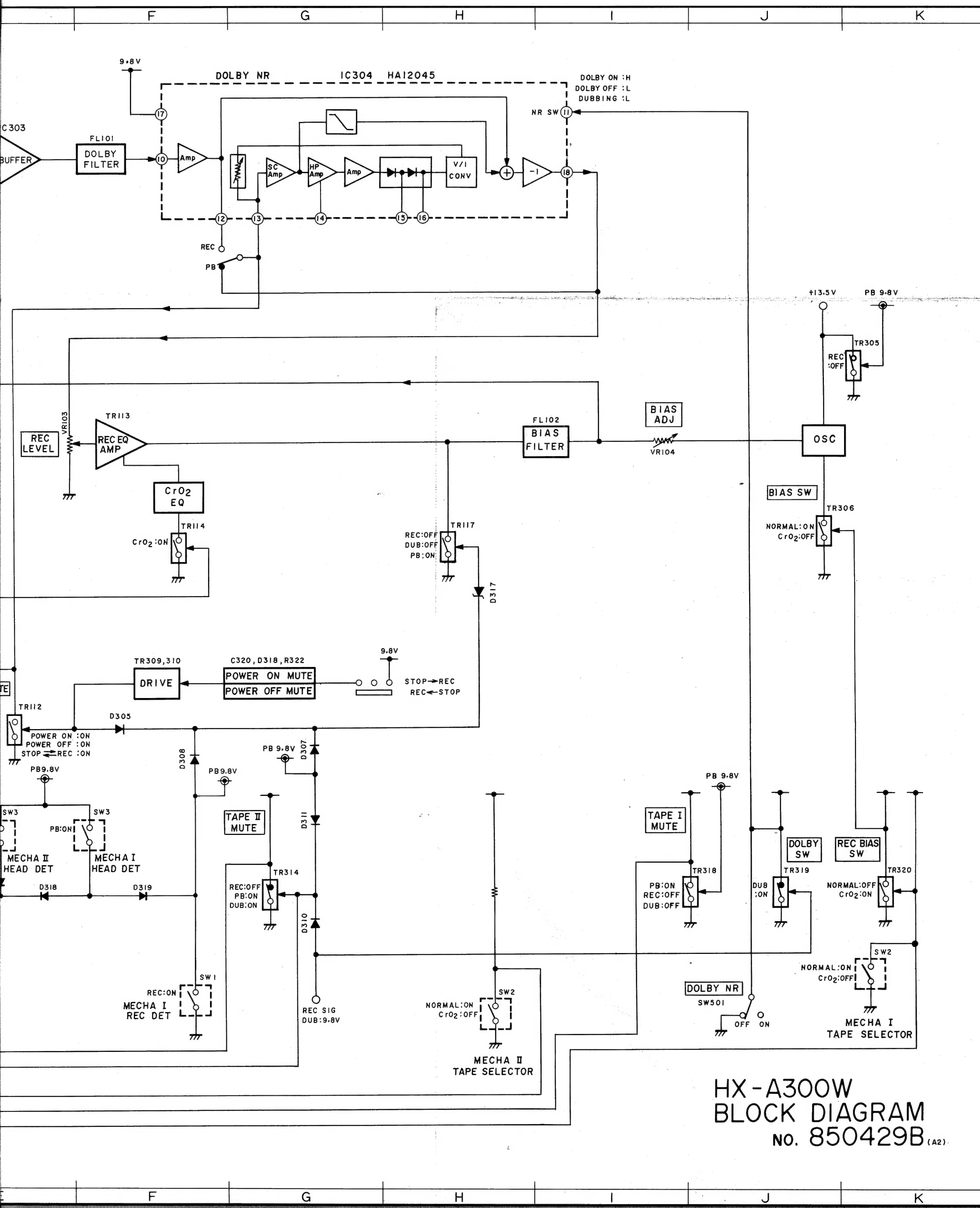
TRs
 TR103.....C2
 TR105.....B2
 TR106.....B2
 TR107.....B2
 TR111.....B1
 TR112.....A3
 TR113.....A3
 TR114.....B4
 TR117.....B4
 TR203.....C2
 TR205.....B1
 TR206.....B2
 TR207.....B2
 TR211.....B1
 TR212.....A3
 TR213.....A4
 TR214.....A4
 TR217.....B3
 TR401.....E3
 TR302.....E3
 TR303.....E3
 TR304.....E3
 TR305.....E3
 TR306.....E3
 TR308.....E3
 TR309.....C4
 TR310.....C3
 TR311.....C3
 TR314.....D1
 TR318.....D2
 TR319.....D3
 TR320.....E3

TR103.....2SC2320 (F,G)
 TR105.....2SC2320 (F,G)
 TR106.....2SC2320 (F,G)
 TR107.....2SC2320 (F,G)
 TR111.....2SC2320 (F,G)
 TR112.....2SC2320 (F,G)
 TR113.....2SC2320 (E,F)
 TR114.....2SC2320 (E,F)
 TR117.....2SC2320 (F,G)
 TR203.....2SC2320 (F,G)
 TR205.....2SC2320 (F,G)
 TR206.....2SC2320 (F,G)
 TR207.....2SC2320 (F,G)
 TR211.....2SC2320 (F,G)
 TR212.....2SC2320 (F,G)
 TR213.....2SC2320 (E,F)
 TR214.....2SC2320 (E,F)
 TR217.....2SC2320 (F,G)
 TR301.....2SC2274K (E,F)
 TR302.....2SC2274K (E,F)
 TR303.....2SC2320 (F,G)
 TR304.....2SC2320 (F,G)
 TR305.....2SC3402
 TR306.....2SC2320 (F,G)
 TR308.....2SC2320 (F,G)
 TR309.....2SB774 (E,F)
 TR310.....2SC2320 (E,F)
 TR311.....2SA1115 (E,F)
 TR314.....2SC2320 (E,F)
 TR318.....2SC3402
 TR319.....2SC3402
 TR320.....2SC3402



POWER SW PCB T2086A501E

TAPE POSITION NOR : NORMAL TAPE POSITION
CrO₂ : CrO₂ (CHROME) TAPE POSITION



HX-A300W
BLOCK DIAGRAM
No. 850429B (A2)